Publications Committee

BULLETIN
OF THE
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JUNE 5 | 1915: No. 32 | 1915

PLAY AND ATHLETICS

Care of the Body, Playground Games and Equipment, Athletic Contests, Organization of Meets, Leagues, etc.

Issued by the

Public Discussion Division

of the

Department of Extension

Published by the University six times a month and entered as second-class mail matter at the postoffice at

AUSTIN, TEXAS

DEPARTMENT OF EXTENSION.

The Department of Extension of the University of Texas was established for the purpose of rendering service to the people of the State generally, and especially to those who are unable to attend the University. The work of this department is carried on under the following five divisions:

Public Discussion Division.

This division has immediate charge of "The University Interscholastic League." This is an organization of the schools of Texas for the purpose of promoting contests in debate, declamation, spelling, essay-writing, and athletics. The University is desirous of aiding the schools in the matter of training their students for citizenship; and also to aid teachers in developing, controlling, and standardizing athletic activities in the schools. Every school in Texas, no matter how small, should become a member of this organization.

This division is also engaged in the preparation of reference lists and material on various subjects of general interest, and the collection of "package" libraries for loaning to citizens of Texas upon application. Books and pamphlets thus loaned may be kept not longer than two weeks. The person to whom material is loaned pays the postage both ways. University bulletins need not be returned unless specially requested. Loan libraries are now ready on the following subjects: Agriculture; Airships; Alcohol; Arbitration; Athletics; Banks and Banking; Birds; Boy Problem; Boy Scouts; Canning Clubs; Capital Punishment; Child Labor; Child Study; Child Welfare; Christmas; Cigarette Habit; Civil Service; Co-education; Commission Government; Compulsory Education; Conservation of Resources; Contagion and Contagious Diseases; Convict Labor; Co-operative Marketing; Corn; Cost of Living; Cotton; Crime and Criminals; Disarmament; Domestic Science; Drama; European War; Flies; Games; Germany; Government Ownership of Public Utilities; Hogs; Hours of Labor; Immigration; Income Tax; Indians; Industrial Education; Initiative and Referendum; Irrigation; Journalism; Juvenile Courts; Kindergarten; Labor Unions; Land Tenantry; Manual Training; Merchant Marine; Mexico; Military Education; Milk; Minimum Wage; Monopolies; Monroe Doctrine; Montessori Teaching; Mothers Clubs; Moving Pictures; Municipal Improvement; Municipal Ownership; Nature Study; Negro; Nutrition; Old Age Pensions; Open and Closed Shop; Panama Canal; Panama-Pacific Exposition; Parcel Post; Peace; Pecan Culture; Philippines; Playgrounds; Poultry; Presidential Term; Prison Reform; Prohibition; Public Health; Railroads; Recall; Recitations and Readings; Red Cross; Religious Education; Roads; Rural Credit; Rural Life; Rural Schools; Russia; Sanitation; School Gardens; Schoolhouses; School Hygiene; School Libraries; School Lunches; Sewage; Short Story; Single Tax; Social Center; Socialism; South America; Story Telling; Submarine Warfare; Suffrage-Educational Qualification; Tariff; United States Army; United States Navy; Woman Labor; Woman Suffrage; Women's Clubs.

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Public Lecture Division.

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(Continued on inside back cover)

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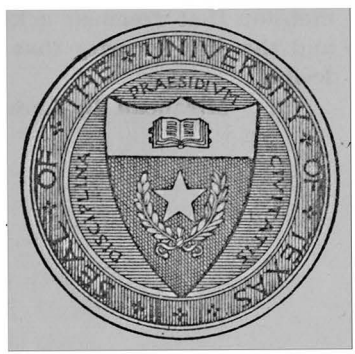

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The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston.

Cultivated mind is the guardian genius of democracy. . . . It is the only dictator that freemen acknowledge and the only security that freemen desire.

Mirabeau B. Lamar.

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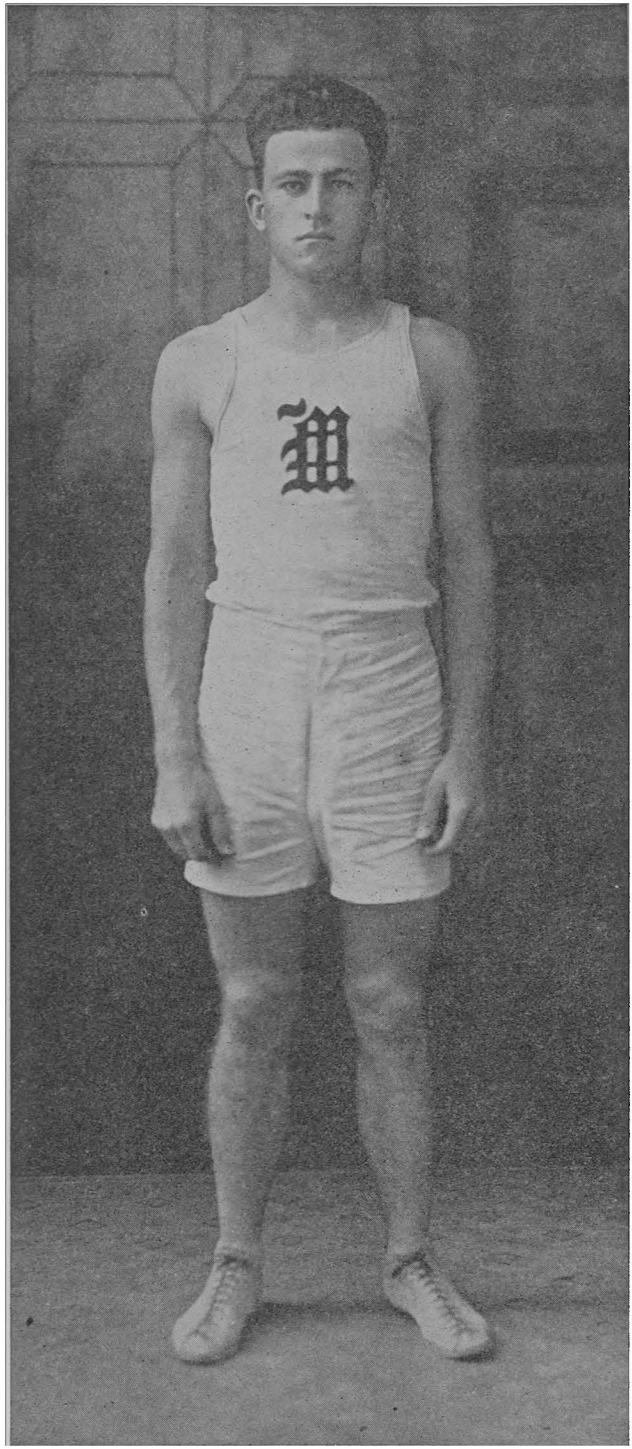
PREFACE

The purpose of this bulletin is to assist members of the University Interscholastic League in organizing and conducting contests, in training athletes, and to help in matters of physical education and playground activities generally. The Constitution of the League provides for county and district contests, and a final meet in athletics, debating, declamation, spelling, and essay-writing at the University of Texas. The detailed rules governing athletic contests are given in the bulletin containing the Athletic Rules of the League, hence they are not repeated here.

The annual membership fee for each school in the League is $1.00. This fee should be sent to E. D. Shurter, Chairman, University Station, Austin, Texas. Payment of the fee entitles a school to enter both the public speaking and the athletic contests, and to receive loan libraries and the special bulletins prepared for the assistance of schools in training for the contests.

Besides this Bulletin, each member of the League will receive, free on request, four copies of the bulletin on the subject for debate in the League, and also one or more copies of the bulletin on Literary Societies, Debating, etc. A copy of the bulletin containing the Constitution of the League will be sent on request to any person in the State.



HOMER WAITS.
Marshall Training School, champion all-round athlete, academy division, 1914 and 1915; also a star football player. In the state meet in 1915, Waits threw the hammer 157 ft. 6 in.

INTRODUCTION

BY A. J. ROBINSON,
Principal of the Marshall High School

Physical Education.—You are doubtless acquainted with the present-day crusade in behalf of physical education. It is not a fad, but a serious-minded effort on the part of educators and leaders the country over to stave off what ex-President Chas. W. Eliot of Harvard University says is the gravest danger which threatens us as a nation—the dissipation of our physical energies. Educators are agreed that the nation of the future will be the one which takes the most intelligent care of the body. The more complex our civilization becomes, the greater the nervous strain under which people have to live; hence the more urgent it is that we do something to make the nervous organism more capable of enduring the strain. Physicians are stressing the point that the best way to check tuberculosis, typhoid, and similar diseases, is to build up the lungs, heart, and general vitality while young. Any scheme of education, therefore, or any school, which neglects the bodies of its pupils, fails in the most important matter of all. The aim of education, nowadays, is to make men and women efficient; to make them capable of doing useful work well and to take pleasure in so doing. They will find this impossible, in the long run, however well trained they may be in other respects, unless they are efficient physically.

Physical education has many phases, but most of them are subserved by intelligent use of play and athletics. In fact, these are the two chief directions which the growing movement for more careful physical training has taken.

The Need of Organized Play—One of the most marked features of recent educational progress has been the renewed emphasis placed upon the importance of directed play. Not alone from the standpoint of physical training, but from the standpoint of mental and especially of moral and social qualities, is play now recognized as not only necessary but essential. Social workers, teachers, judges of juvenile courts, in fact every one who deals intelligently with growing youth, must give attention to the play-loving instinct. They must provide opportunity for its exercise and see that suitable environment and direction be given so that the desirable tendencies are encour-

aged and the undesirable are checked. Furthermore, it is a great mistake to suppose that children in the country, who get physical exercise from work on the farm, do not need to play. They need not only to play more than they do, but to play better. They need more than do city children, the socializing influence and the sense of team work that properly directed play will give them. They need play in order to counteract the feeling of isolation of the country, and the consequent distaste for country life.

The Value of Athletics—Athletics are to adolescent boys and girls what play is to smaller children. The essential feature of athletics is the element of *contest*. In the athletic contests of youth are developed the powers necessary for the harder contests of later life. To deny virile youth the opportunity of athletics is to make that youth less virile and force it to find other and less desirable means of satisfying the athletic impulse. To permit athletics to take care of themselves, as many teachers do, is to miss the greatest possible opportunity for instilling the right social ideas and for building character.

City superintendents, principals, and school boards have been slow to recognize the immense importance of taking hold of the athletic problem of the high school, except in the most haphazard fashion. Possibly even worse conditions have obtained in the village and rural schools. In the present day, however, live teachers are no longer ignoring athletics as being without educational value, nor are they indifferent to the many evils resulting from loose control. But since some few teachers and many patrons and trustees fail yet to realize that anything but harm can come from high school athletics, the following article, by Superintendent J. F. Kimball of the Dallas City Schools, published some years ago in the handbook of the State Interscholastic League, is reprinted here, with Mr. Kimball's permission. Particular attention is called to the emphasis placed upon the importance of strict control of athletics in the high school by responsible authorities:

"Nearly twenty years ago, the writer raised his voice in a state gathering of teachers to urge the encouragement of high school athletics in Texas as an integral part of high school work. At that time his youth and its interests lay so close behind him that he spoke from the viewpoint of the student rather than of

the pedagogue. The years that have passed since that time, bringing a rather wide observation and study of school conditions and practices throughout the nation, have tended to increase rather than diminish his appreciation of the value of high school athletics as a factor during adolescence for the development of the best and sturdiest qualities that go to make manly men. During these years he has seen scores of high school boys learn on the athletic field the indispensable life-lessons of self-mastery and self-restraint, of subordination of impulse to purpose, of tact and poise essential to leadership, of that infinite attention to detailed knowledge of the game and of the traits of the various members of the team requisite to team-discipline and *esprit de corps,* of the acceptance of leadership as a responsibility rather than a personal honor. A widow urged to insist on her boy playing football said she feared he might break his arm: 'Madam,' was the rejoinder, 'it is better for your boy to break his neck in sturdy manly play than to become the soft-fibred spineless creature that wealth and petting will soon make of him, unless sturdier motives are brought into his life-purposes.' For high school teachers, ability to direct boys wisely and efficiently on the athletic field stands next in value to teaching power and scholarship. In many cases this ability to make himself worth while to the students in an athletic way more than doubles his teaching opportunities, if not his teaching power. But the value and popularity of athletics for high schools is too well recognized in Texas today to need any voice raised in a plea therefor.

"Two grave dangers threaten the best interests of high school athletics in Texas today. The first is one that has seriously harmed athletics in American colleges and universities, namely, that active part in actual athletics is shared by comparatively few of the boys of the schools, that the interest taken by the rest of the student-body is only that of interested but non-participating onlookers. This, more than any other influence, has hurt and mis-shaped college athletics, and its harm will be more deadly in the high school. In the schools of ancient Greece every youth took part in the athletic games, not that he might win, but because the state was concerned that each citizen should be sturdy and virile: in nervous America the need of a sturdy physique for each youth is many fold greater. High school

athletics shall be justified and prosper according to the measure in which the many rather than the few find part and development therein.

"The second danger is that through inertia or lack of constructive vision among the teachers the athletic interests of the high schools shall lack proper ideals, guidance and management. In some schools the coaching and the business management of athletic affairs is turned over to chance comers from the outside, or to the unguided efforts of enthusiastic students who have no inkling of the educative possibilities involved. Personally I would feel that our high school was losing less of its opportunities for valuable service to its youth if we were to turn over the department of mathematics or science to the uncounselled devices of the students and their chance friends than if we were to neglect any phase of the administration of its athletic affairs. The best business manager that a high school team can have is the principal of the high school; possibly some other member of the faculty might be delegated because of special fitness, but control of the athletic activities is one of the essential functions of the principal's administrative duties to his high school. In all cases the coaches should be men on the high school faculty, chosen for the faculty because of their scholarship and their ability to train for red-blooded manhood of brain and muscle. This was recognized last year by Boston and put in force, though tardily enough, by special resolution of the School Committee of that city. The assignment of faculty members to the various student activities outside the classroom, such as debating, chorus work, basketball, football, baseball, track team, etc., should be as definite a part of the school regime as are the assignments to classroom work in algebra, Latin or chemistry. The part of the teacher is not to dictate but to inspire and encourage, not to do the work but to counsel and form high ideals of athletic chivalry and courtesy, to teach not only how to play the game, but also how to play the man, even in the face of defeat or foul play, to give concrete, vital, work-a-day example to the sentiment expressed by a spirited picture that hangs in the boys' dressing-room of the Temple High School; a football team trotting onto the gridiron in their harness, eyes steady, faces tense, courage high, hundreds of spectators in the background; underneath in bold letters this legend:

'Go, lose or conquer as you can—
Be each, pray God, the gentleman.' ''

How Can Teachers Help?—How can teachers help in developing play and athletics along right lines? Many of those who have little or no opportunity for special training in the subject will no doubt feel more or less helpless when it comes to organizing a movement for bettering conditions in their respective schools. Supposing that you are one of these teachers, let us see what you can do.

1. In the first place, you can give just a little attention to the study of the subject; you can read one or two good books, such as Sargent's Physical Education, so that you will have an adequate idea of the various problems involved. You can familiarize yourself with the practical pointers and suggestions as to training, management of various contests, etc., to be found in this bulletin or in similar pamphlets.

2. You can learn a few simple games suitable for different classes of pupils, such as Volley Ball, End Ball, Group Relay Racing, Three Deep, Potato Race, etc., and seek to enlist every pupil in school in some form of outdoor athletics. In this way it will be seen that athletics are for all, and not merely for the chosen athletes, and there will be less objection to school athletics on the part of parents.

3. You can find some individual in the community who has had experience in athletics and who will be glad to co-operate with you in furthering legitimate athletic interest. You can, through the press, through personal talks, and indirectly through the pupils, obtain the co-operation of the parents. The latter will be glad to help when they see that you are using athletics as a means, and not as an end in themselves.

4. You can help by insisting upon gentlemanly conduct on the part of players, and urging the player to take a proper view of honor in athletics. You can get in touch with other teachers, and co-operate with them in promoting friendly relations between contesting teams. You can thus do much to teach your pupils to take defeat manfully, to play the game fairly, and to treat officials with proper respect. There seems to be a general looseness among the schools, in this particular, and it is a point which needs very great attention. If our athletic contests

promote hostility rather than friendliness between the contesting teams, it is perhaps better not to have them. There is no good reason, however, why this should be. With united effort on the part of teachers, where the spirit of true sportsmanship prevails among them, it will not be the case. But it is impossible to cultivate true sportsmanship among the pupils, if teachers themselves do not possess it. Every effort should be made to treat visiting teams as real guests, and to make the conditions of the contests just as favorable for them as for the home team. On the other hand, a visiting team should be encouraged to accept what they get without complaint, and not to be too ready to suspect officials or others of unfairness. It is only by co-operation among teachers and other officials along these lines that many of the worst evils now attending interscholastic contests will ever be destroyed.

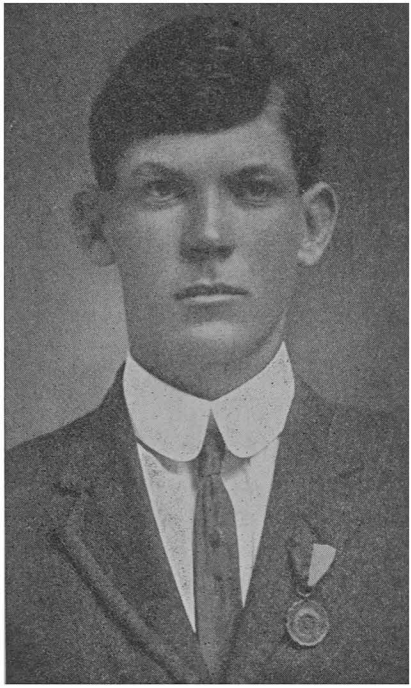
5. You can see to it that your school becomes affiliated with the University Interscholastic League; an organization that stands for clean athletics and better playground conditions for all the schools of Texas.

See that the eligibility rules of this league are enforced in your own school. Do not be too quick to suspect some other school of looseness in this respect. The most pressing need for high school athletics at present is a strict enforcement of the eligibility rules. And the place to begin is at home, and not on our neighbor's team. Let your school run the athletics, and do not let athletics run your school.

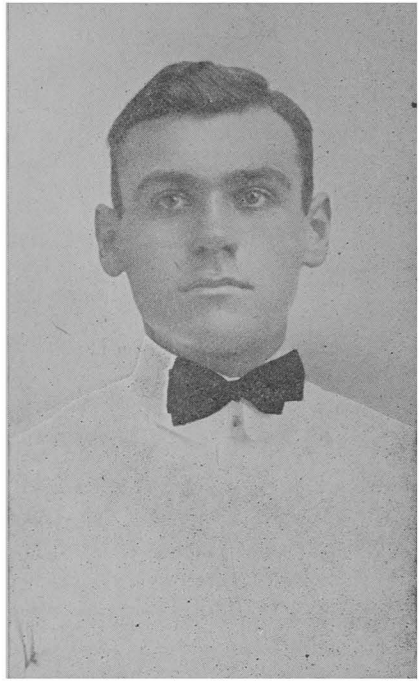
A Word to the High School Athlete.—You are, let us say, trying to make the football, basket-ball, or some other athletic team that will represent your school in coming contests. You have never made the team before, but you have hopes of that honor this year. Or, it may be, you are one of the old guard, and you are expected to be one of the mainstays of your team this season. In either case, there are just three things that you need to bear in mind in order to make your athletic career a success. Without these three things, it will be a failure, no matter how many champion teams you happen to belong to. *First*, consistent effort and determination, coupled with a careful study of the points of the game as given you by the coach and the printed rules; *second*, careful and regular habits of exercise, eating, sleeping, and the observance of the other well-known

laws of health, so that you will always be physically fit and will not permanently impair your health by sudden and violent exertion of the strenuous games because you are not prepared for them; *third*, true sportsmanship. Without the first essential mentioned, you will, should you make the team, frequently mar your play at critical stages simply because you did not take the trouble to heed the advice of your coach or because you had not acquired the habit of putting the very best effort into everything you undertook. Without the second essential, which includes clean living in every respect, you will some day enter a game only to find that you have dissipated your energies one time too often, and the necessary *push* required to lead you to victory is consequently lacking. You will some day meet an opponent who has trained more carefully, lived more closely by the simple laws of health than you have, and who will therefore possess just a fraction more of strength or skill or nerve than you can muster, and the coveted honor will go from you. Or, what is much more important, you will find, after the excitement of your athletic career is over, that you have weakened your physical powers in spite of all your athletics, and that you are unable to stand the physical strain of the bigger contest of life. It is more important for you to build up a sound body than to win athletic contests, and from the standpoint of physical training the practice of keeping yourself always physically fit and of avoiding harmful habits is of more importance than the actual games you play only once in a while. In fact, the latter, if they are very violent, will do you harm instead of good unless you are prepared for them.

True sportsmanship is the finest lesson you can learn from your athletics. There is nothing more inspring than to see a team of boys fighting their best against odds in an athletic game, and yet keeping their temper and manliness as well as their heads, and meeting defeat with no feeling of bitterness for their opponents. Play the game according to the rules, catch the spirit of true sport, and do not complain of officials or opponents at every opportunity. Victory is not worth the price, if, to win it, you must lose your self-respect to the extent that you will cease to be fair or courteous to the other fellow. A defeat is sometimes better than a victory if you take it in the right spirit; you must learn how to lose as well as how to win.

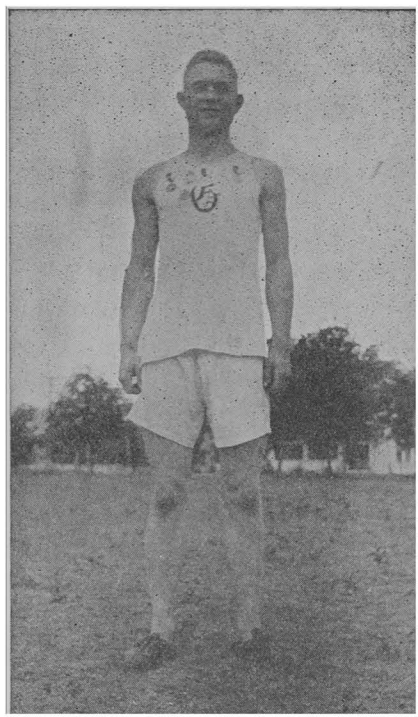


IRWIN.
Jacksonville High School.



SENS.
Cameron High School.

Tied for individual honors in state track meet, 1915.



H. SMITH.
Grandview High School, all-round state champion in track, Class B division, 1915.

II

THE FIRST ESSENTIAL FOR AN ATHLETE

Care of the Body.—The care of the body is the all-important thing. To win contests, the body must be kept in condition. That means attention to the following essentials of health:

(a) *Food and Drink.*—In matters of food, every one must be his own physician. What is good for one may not be good for another. You should find out what agrees with you and what does not, and eat accordingly. Do not be afraid to eat plenty of good food, although you may find that a little dieting will do you good, especially before a contest. If you are troubled with indigestion, dieting will aid nature, but dieting will not remove fat, as some people suppose. It takes exercise to do that.

To promote good digestion, avoid an undue amount of pastry and sweets. Avoid also an excessive meat diet. Be agreeble at the table. Avoid any unpleasantness anywhere, but especially at the table. Do not eat when tired, and avoid any hard work, either mental or physical, directly after eating. Do not eat hastily, nor at all times of the day or night. Be regular, and take your time. If you are troubled with biliousness, it is probably due to over-eating, or the consumption of animal fats that are difficult to digest. A good remedy is to change your diet, and not eat so much. Learn from the textbook on physiology and hygiene the various food values of different articles of diet, such as brain food, heat-producing food, and muscle-producing food, and then try to suit your diet to include the better classes of each kind of food, including more of the kind which you seem to stand most in need of.

As to drinking, it is unnecessary to say anything about intoxicants, when every child knows their injurious effects. Generally speaking, coffee and tea would better be left alone, if one wishes to make a strong, healthy, long-lived man or woman. But some people do not seem to have any trouble from these stimulants, when taken moderately. It is safe to say, however, that for a growing boy or girl coffee and tea will do no good and will be likely to do much harm, especially if one engages in athletic contests where strong hearts and steady nerves are required. Most

of the drinks sold at soda fountains are not injurious in themselves, but they are very injurious when taken to excses, as is too often the case. A glass of water before breakfast will be found a fine thing for the digestion. As to drinking cold water, milk, etc., opinions differ, but the majority are against drinks that are more than moderately cold. A cold drink may not harm a stomach of strong vitality but may do much harm to one of low vitality. Contestants often drink too much cold water during a contest. This is very bad, not only for its permanent effect, but it renders the contestant incapable of putting forth his best effort at the time.

(b) *Cigarettes.*—You have read in the textbook and you have heard people preach to you about the harm of cigarettes, but did it ever come home to you? You are now thinking of trying for the track team. You know, and everybody knows, that cigarettes weaken the heart. You know, also, that to win where there is much competition, you must have a strong heart. What will you do? Continue to use cigarettes, or be sensible, self-respecting and manly, and "cut them out"? It is up to *you.*

Every successful athlete, whether track man, baseball player, pugilist, or any other kind, in the world will tell you that cigarettes will shorten your wind, sap your vitality, weaken your heart, in fact ruin your chances of success. Every trainer will tell you the same thing. No prize-fighter would think of going in to train for a championship match without abstaining from cigarettes. It would be well for every high school athlete to read the words of Jess Willard or of John L. Sullivan about the use of tobacco and especially of cigarettes. There can be no question that these men know what they are talking about. You may be a fairly good runner, jumper, or football player, as it is; in fact, you may be a star of your team. And yet if you have the habit of cigarettes, how much better might you become if you would leave them off. Suppose you try it for a year. If you use your brains, you will.

(c) *Exercise.*—It is unnecessary to say anything here about the importance of exercise, since everyone knows that is essential to the development of a strong body. It may be said that most high school pupils get enough of exercise, especially if they engage in games or athletic contests. Very few, however, take their exercise in the way that will do them the most good. They

either are too irregular as to the time, or they take too much at one time and too little at another. To get the desired results, exercise must be adapted to the condition of the individual. Where the heart or lungs are weak, gentle exercise should be taken at regular intervals, and violent or sudden exertion should be avoided. Where the muscles are soft or weak on account of a period of inaction, great care should be used in gradually toughening them by easy exercises in walking, trotting, dumb bells, Indian clubs, etc., before attempting any strenuous exertion. In getting in condition for any athletic contest, you cannot be too careful about taking it easy at first. Then after you have hardened yourself by gradually increasing the length and severity of your exercises, keep in condition by taking plenty of exercise at regular periods.

Furthermore, put life into your efforts, and a *will*. Put the play spirit into whatever you do, but put *will* also. Vary your exercise frequently, and see that each part of the body, and each set of muscles, gets its share. Variety in exercise, like variety in the food we eat, helps in two ways: it brings into play different sets of muscles and strengthens different organs and parts of the body, just as variety in food gives different elements of nutriment; and it also acts as a tonic for the muscular and nervous systems just as variety in food acts as a tonic for the digestive organs.

(d) *Rest.*—Rest is as important as exercise. Long and strenuous exertion is bound to have a bad effect during the early years of life. For that reason, severe training, or the playing of prolonged and violent games, or running long races under pressure of close competition, should not be engaged in by the younger boys. Frequent periods of rest should come in the intervals of play and other exercise. Furthermore, for the older high school boys, the day, or possibly two days before a hard contest, there should be a relaxation from the harder kinds of practice. In this way an extra supply of energy will be acquired that will stand in good stead during the contest, and will not only help you to put forth the best that is in you, but will tend to prevent any ill effects that might otherwise follow. Any one who wants to build up a strong constitution must get plenty of sleep and must not carry physical exercise beyond the point of fatigue.

(e) *Bathing.*—Without a good bath immediately afterwards,

fully fifty per cent. of the good to be derived from exercise is lost. Nothing is more important for any one in the matter of training than a bath in water of suitable temperature accompanied by a good rub-down, following the work-out or the athletic game. Until recently there were few high schools in Texas where any provision was made for this important item. Happily this condition is fast becoming changed, and most up-to-date high schools now have a dressing-room and shower bath in the basement for the members of the various athletic teams. Always follow vigorous exercise with a sponge bath, in cold water if you are of high vitality and in lukewarm water if your vitality is low. Another time for a cold bath is immediately on rising in the morning. Always follow a cold bath with a brisk rub-down, especially if you are going out in the open air. Do not take a hot bath too often, but a good hot bath once a week, taken just before retiring, is necessary to cleanse the skin thoroughly.

(f) *Clothing.*—Dress, as far as you can, according to the weather and what you are doing. While practising or competing in athletics, always put on a sweater or coat the moment you cease perspiring. This will keep your muscles from getting chilled and keep them in good condition. Sore arms and legs are caused many times from failure to observe this simple rule. Especially in the winter months, take care not to get unduly exposed to cold winds after a work-out.

III

TRACK AND FIELD ATHLETICS

No athletic sport has gained so rapidly in popular favor in recent years as track and field contests. Perhaps nowhere, in interscholastic circles, has this development been so marked as in Texas. Today there is not a state in the Union where greater interest in this form of high school athletics is shown than in our State. And track and field sports offer, in many respects, the most desirable form of athletics. There is less chance of trickery, less temptation to play unfair, and less opportunity for dispute and unpleasant feeling to arise as a result of competition, than in some of the other games such as football, for example. In the spring of 1915, over seventy counties in Texas held enthusiastic interscholastic meets under the auspices of the State League, while 393 boys, representing 81 schools, many of them rural schools, gathered at the University of Texas for the greatest interscholastic meet ever held in the South. At this meet, nine State records were broken. With the growth of the State League, and the carefully planned list of events and rules to govern adapted to meet the needs of all classes of schools, every school in the State ought to enter one or more boys and girls in the annual county meet. The rules governing the various events, with the list of same, division of contestants, etc., are to be found in the University Bulletin entitled: Athletic Rules of the University Interscholastic League. A copy of this bulletin will be sent free to any teacher or pupil who will write for it to the Extension Department, University, Austin, Texas.

THE DIFFERENT EVENTS

Running.—A sprint is a race at full speed from start to finish. All races up to the quarter, and in most cases it too, are now run as sprints. In sprinting, we must pay attention to (a) the start, (b) getting into the stride, (c) acquiring staying power.

When a sprint race is called, dig two holes for your feet, one about six inches back of the starting line, the other about eighteen inches back, and a little to one side. The latter hole should be

Grandview High School Team. This team won second honors in Class B division, state meet of 1915.

Greenville High School Relay Team, winners at both the A. & M. and the University of Texas meets, 1915. This team cut 7 3/5 seconds from the state record.

deeper, and steep so as to give a good brace for the ball of the foot.

At the command of the starter, "On your marks," place your feet in the holes, with your fingers on the line. One knee should be about opposite the instep of the other foot. At the command, "Get set," place yourself in a springing position, with hips raised, arms straight, head up and body leaning forward. Distribute your weight evenly on both feet, with a little on the fingers. Weight should be on balls of feet. Take a deep breath. Concentrate all your attention on your spring. At the crack of the pistol, spring forward with all the force on both feet. Do not straighten up at once, but do so gradually, within three or four paces.

Get into your stride as quickly as possible, always looking straight ahead. Take only one or two breaths in a short sprint. One breath should carry you from thirty to fifty yards. Do not let up at the tape, but dash into it, hands up, at top speed as if you had ten yards more to go.

Incline your body slightly forward, but not too much. Keep your head up, chin somewhat forward. Do not raise heels too high, but the instant feet are up, bring them forward, legs always in a straight line. Raise your knees well in front, but not too soon, as this will shorten your stride. Point your toes straight ahead, and hit the ground hard at each bound. Do not force your stride longer than it is naturally. If you keep good form, it will lengthen itself.

In the 220 yards dash, you may hold back just a little for the final effort, if you don't get too far behind.

Never run a race without dancing around and warming up. Take several deep breaths just before going to your marks. In practice, never run the full distance at top speed at first. The following is a good plan to follow in practice for the shorter dashes:

Monday.—Practise the start five times. Do not run at full speed more than 20 yards. Take a short rest after each start. Take an easy jog for 50 or 60 yards, and finish the 100 yards fast.

Tuesday.—Take 300 or 400 yards at an easy jog.

Wednesday.—Practise the start three times. Rest, then run 50 yards full speed. Rest, and run 60 yards full speed.

Thursday.—Practise starting six or eight times. Take 300 yards at an easy jog.

Friday.—Go 80 yards at full speed. Rest, then go 50 yards at speed. Jog 100 yards.

Saturday.—Practise the start twice. Run 100 yards at speed. Rest, then jog 200 yards.

For the quarter mile run, use the crouching start as in the shorter sprints. In the half-mile and mile runs, start from an upright position.

Points in the rules for runners to remember are:

(a) As soon as you go to the track, get a program, and get your number and pin it on you.

(b) At starting, if any part of your body touches the ground in front of the line before the signal is given, it is a foul and the offender is punished by being set back a yard or more for each offense.

(c) The finish of a race is the whitewash line on the ground, and not the tape stretched above it. A race is not finished till the runner crosses this line. To avoid striking the tape with your hands or arms, throw them up as you finish.

(d) In races on a straight track, each runner has his own lane, and he must not cross into another's lane or interfere with him in any way. To do so is a foul.

(e) In races on a circular track, you must not cross in front of another runner till you are at least two strides ahead of him. To do so is a foul. You must not run into or otherwise interfere with another runner.

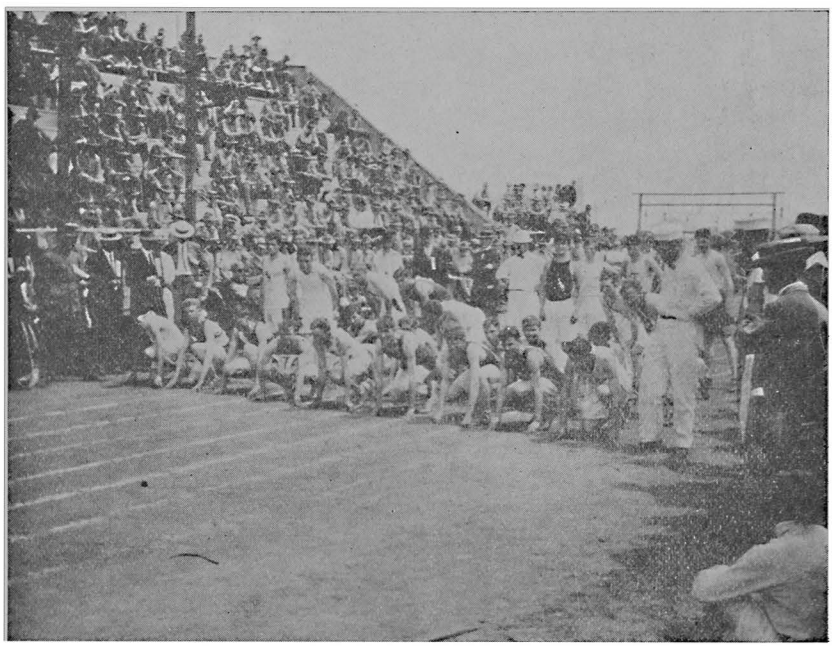
RELAY RACES

The relay races ordinarily run by select teams of school boys are the mile, the half-mile, and the 440 yards relays, with four boys on each team, each boy in the mile relay running a quarter mile, each boy in the half-mile relay running 220 yards, and each boy in the 440 yards relay running 110 yards. But a relay race may be run with any number of boys competing provided the same number is on each team, and the distance for each runner may vary from 30 yards to a quarter mile.

Suppose it is a half-mile relay, with four on each team, and suppose there are four teams. The teams draw for places. The other runners of a team must keep the same positions at the start

that the first runner had. The first runner on each team carries a stick or flag, which he must hand to the second runner at his finish line. The second runner must wait at the finish of the first 220 yards to receive the stick; he cannot run back to meet the first runner. He in turn must hand it to the third runner at the finish of the next 220 yards, and so on. The team whose last runner first reaches the finish lines with the stick is the winner.

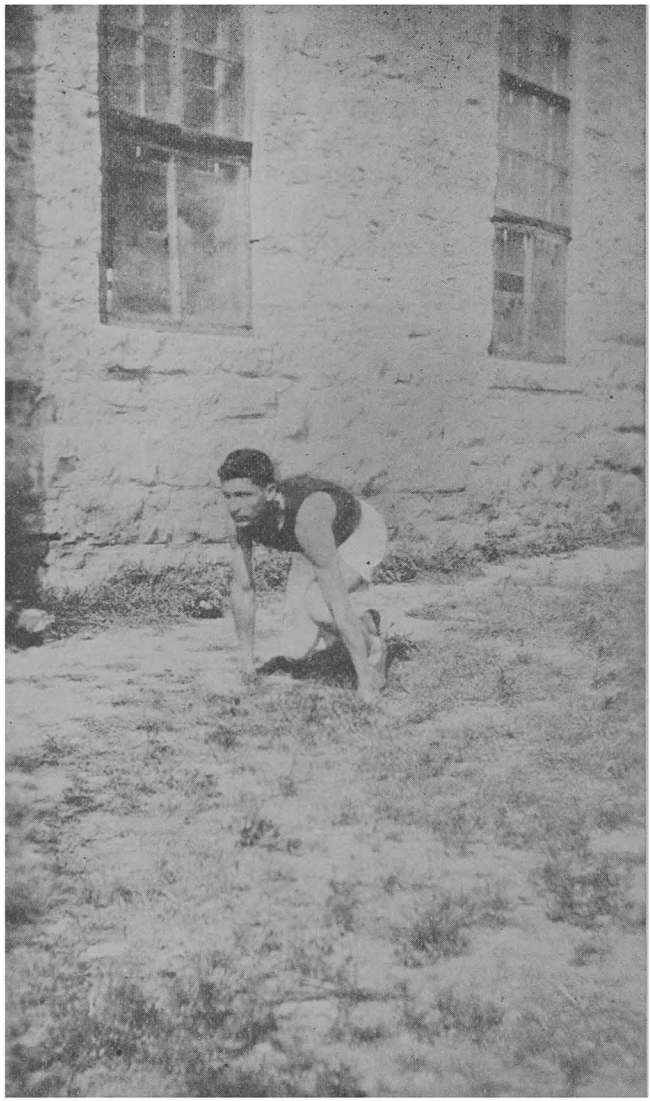
This race can be easily run with a very large number of boys



Ready for the start, half mile run.

on each team, and it is always very interesting to the spectators. If there is to be a handicap for any team, the whole distance is allowed at the start of the race.

Hurdle Races.—The hurdle races commonly run by school boys are the 120-yards low hurdle and the 220-yards low hurdle. Each hurdle is 30 inches high. In the 120-yard hurdle race, the hurdles, ten in number, are placed 10 yards apart, the first and last ones being 15 yards from the start and the finish, respectively. Hurdle racing requires a great deal of speed as



PIER.

Star track man, St. Edward's Academy. Notice the relative height of knees, and the forward and upward look of the eyes.

well as jumping ability and endurance. It is one of the most trying of all athletic events, and for that reason should not be run except by robust boys.

The easiest, but not the fastest way to clear the hurdle is to swing the left foot inward nearly parallel with the hurdle. If your legs are long enough, quicker time can be made by keeping the leg straight. Practise with one hurdle until you can clear it in proper form without slacking your speed. Face the hurdle squarely, and take it at top speed. As you go over, throw your weight forward, pointing the front leg out and down, and keep your foot pointed straight ahead as you alight. Learn to hit your stride instantly on reaching ground, making the first step short. Keep your body well balanced over the leg as you descend. When you have learned one hurdle well, and not before, try two, then three, then all of them. The right form is of the greatest importance, and unless you are willing to take the patience to practice faithfully, you will never be a good hurdler. Remember the three main points: (1) to take each hurdle at top speed, and facing it, (2) throw the body forward and point the front leg somewhat out in front as you go over, and (3) to hit the ground with the weight well on the first foot, so that the second foot can instantly take a short step and you can hit your full speed at once.

A hurdler needs an especially strong body, besides speed. The muscles of the neck, abdomen, and hips and legs should be strong, and also the arms. These may be strengthened by special gymnastic exercises.

The hurdler must remember, (1) not to knock the hurdles over, (2) not to step on top of them.

Three-Legged Race.—Besides being very interesting to spectators, this event calls for a great deal of skill and speed. Fasten a strap to the inside ankles of two runners, and join these by a loop strap three inches long. Fasten a similar strap above the knees, with a connecting loop two inches long. It is well to have one runner taller than the other, so that he can get a good hold over his partner's shoulder around his waist. Practise the start faithfully, and run just as if you were running the race alone. This event requires a great deal of practice, but the improvement that will result is well worth it.

Potato Race.—This is another very interesting event, but very trying, and hence should not be made too long, and children should practise a good deal before being allowed to enter a closely contested meet. For each contestant, place a basket containing three potatoes at the far end of a 12-yard line. Along the line every three yards, draw a 2-foot circle, the first circle being three yards from the starting line and the third circle being three yards from the basket. A contestant must start from the starting line and run to the basket, get one potato and place it in circle No. 1, or the one farthest from the basket. He then gets a second potato and places it in the middle circle, then gets the third potato and places it in the third circle. He then races to the starting line, returns, and replaces the potatoes, one at a time, in the basket, in the order in which they were distributed. He must go around the basket each time a potato is replaced in it. He finishes in a dash across the starting line. In practising for this race, do not run fast at first. Go through slowly at first, and get firmly in mind just what to do at each step. Acquire accuracy in getting the potatoes and in placing them in the circles so they will stay. If one rolls out, you must return and place it back in the circle, else you are disqualified. After you have drilled yourself a number of times on accuracy, skill in turning, etc., then you can develop speed.

JUMPING AND VAULTING.

Running high jump.—In this event it is very important to practise the run until you know just the right distance to get the take-off. You must not rise too near the bar, for that will throw you into it, and if you rise too far back you will not go over it at your greatest height. Speed is not necessary, nor is a long run. It is best to approach the bar straight in front and to make the last step short and quick, as in the running broad jump. As you rise, say on the left foot, throw the right leg up in front parallel with the bar and close to the body, swinging the arms up and out. As you go over the bar, the body should be in a horizontal position, the left leg being brought up and over the bar with a twist of the body and an upward swing of the left arm.

Standing high jump.—The feet must not leave the ground but

once in an attempt. If so, it counts as a trial without result. Throw the body up sidewise to the bar, and throw the right leg over the bar first. Then as the body goes over, swing the left leg up and over. As in the running high jump, do not keep the body in an upright position, for that would require strength to be used that would otherwise help in lifting the rest of the body over the bar. As the body goes over, it should be in a horizontal position.

Running broad jump.—There should be a take-off board, 2 inches by 8 inches by 2 feet, flush with the ground, and the earth should be dug out 3 inches deep for 2 square feet in front. The jump is measured from the take-off, and not from where the jumper rose. Hence you must practise until you rise easily from the take-off. If you stop over it, it is a trial without result, and if you rise back of it, you lose that much distance. The jump is measured to the nearest mark made by any part of the jumper's body. This requires you to keep your balance and not fall or jump backward, on alighting.

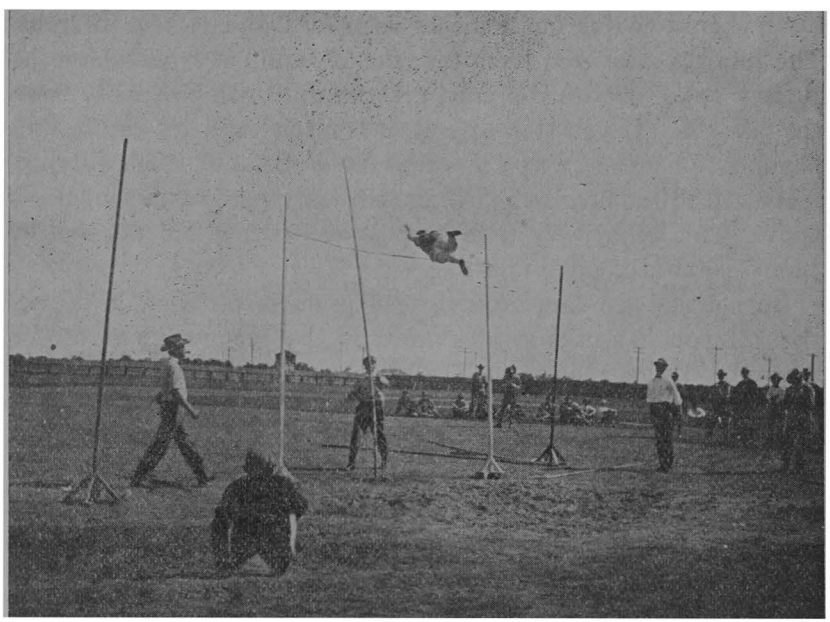
Do not run too far; about fifteen paces is far enough. Practise till you have the strides down so that you will rise at the take-off. To get momentum, speed is very important, and should be greatest about nine or ten paces from the take-off. Just before reaching the take-off, you should slacken your speed so as to throw your effort into your spring. The last step should not be long, but should be short and quick. Throw the body up and forward, swinging the arms up and forward also. Bring the knees well up, and do not let them down too soon, but throw them forward. The momentum of the body will carry it on so that you will not fall back.

Standing broad jump.—The same rules as to take-off board, measuring, etc., apply in this jump as in the running broad jump. The feet must not leave the ground but once in an attempt. One common fault with untrained jumpers is not to get the body high enough in the air. You should give a strong spring upward as well as forward, and bring the knees well up in front, throwing the feet forward as you land.

Hop-step-jump—The same rules as to take-off board, measuring, etc., apply in this event as in the broad jumps. The jumper must spring from one foot, for otherwise it is not a hop. He

must first hop, then step, then jump, and there must be no stop between any two of these. Do not hop or step so far that you have no momentum left for the jump. The jump should be much longer than either the hop or the step. The step should be the shortest of the three.

Pole vault.—The pole should be 14 or 16 feet long, and the best material is spruce. A better grip is had if you wind the pole with electric tape. Grasp the pole, thumb up. You can tell by practise the best place for each hand. One should be a little



Showing correct form in the pole vault. Notice the vaulter has turned round and is facing the bar as he falls.

below the cross bar and the other about twice as far above it. If you rise from the left foot, carry the pole on the right side of the body, and swing the body to the right of the pole as you rise, keeping close to it. Begin the run about thirty paces from the bar, and be at top speed about fifteen paces away. The last step should be short so you can throw momentum into the spring. Practise the run until you can place the point of the pole in the hole in front of the take-off accurately without having to

give it attention. Just as the pole is settled, leap forward and up with all your strength, throwing the legs upward and giving a strong pull with the arms, at the same time making a half turn with the body so that it faces the bar. As you leap into the air with legs uppermost, slip the lower hand up to the other one. It must not be placed above the other one, nor can you raise the upper hand. As your feet and body clear the bar, throw your legs downward, at the same time giving the pole a push as you let it go, throwing the arms up. This brings them clear of the bar.

WEIGHTS

Putting the shot.—While weight and strength are very important in this event, yet a great deal depends on form. In getting form, learn first the "reverse," then the glide, and finally practise making the connection between the glide and the "reverse."

In practising the "reverse," stand with left side to the front. Hold the shot in the palm of the hand, grasping it with the fingers and letting it rest a little on the base of fingers. Keep arm close to the body, holding shot well up by the shoulder. The other arm should be stretched out and up, and the body bent back and down. But do not stoop too low in making the put. Now quickly reverse this position, pushing the right arm out and up, taking one step forward with right leg, and drawing left arm and leg back. Get all the force and speed possible in this movement. Be sure to keep the shot up and arm close to shoulder. Bring the body around before shooting the arm out.

The glide is made by taking two steps forward from rear of circle, keeping left leg in front. After learning the reverse and glide, it is very important to make the reverse after the glide without any stop whatever. The glide is to put momentum into the reverse, and if any hesitation occurs whatever this momentum is lost.

Throwing the hammer.—Face opposite the direction of the throw, reaching around with hammer as far as you can. Swing it around the head three times, then make the first turn of the body, covering very little distance. The next turn and the next are made at increasing speed. At the end of the third turn you should be against the stop board of the circle. Keep the body

ahead of the hammer, and stand on the toes when throwing. You will have to practise carefully to control the direction of the throw and to stay in the circle.

THE DISCUS

The throw of the discus is made in somewhat similar manner to that of the hammer, but weight and strength are not so important as skill. The same attention must be given to getting the glide and the reverse easily and smoothly, and to putting ever increasing speed into the turns. You must be careful here, also, to stay in the circle, for otherwise it is a foul. A good deal of attention will have to be given to getting the proper hold on the discus. Let it lie flat against the palm of the hand, spreading the fingers out so that they grasp the outer edge. Try the stationary throw until you get that down, before trying the turn.

BASEBALL THROW

A baseball throw for distance is ordinarily made after a short run, but it was thought best to require that this event in meets under the direction of the Interscholastic League, should be made from a seven-foot circle as in the hammer, discus, and shot events, as this will call for more skill, and greater control of the body. You should practise to get the right elevation. It is not a good idea to throw too high; about forty-five degrees is best. It is a well known fact that many of the speediest baseball pitchers cannot throw the ball as far as some fielders who have not so much speed when pitching. This shows the importance of practice. No matter how strong you are, you can throw much farther after practising faithfully.

The baseball throw for accuracy is another good event. Fix a catcher's mitt or a pad of some kind, about four feet from the ground and 50 or 65 feet away. Allow three trials, as in other field events, counting the best one. For touching the mitt but glancing off, allow one point. For hitting the mitt squarely, allow five points. If there is a tie between teams, move the line back five yards and then have them throw again. If there is still a tie, allow one point more to the team hitting the mark squarely the greatest number of times.

THE TRAINING OF YOUNG ATHLETES

By F. L. ("Texas") Ramsdell

Begin Training Early

It is desirable to begin training for track athletics early in the winter or even in the fall, for in most parts of this branch of sport it takes time and patience to acquire the "form" that is necessary for success. In Texas, moreover, it is generally possible to train out doors all the winter. In this respect Texas boys have a great advantage over those in the North, for outdoor training, except in bad weather, is far more beneficial than that in a gymnasium.

One of the most essential things for this winter training is to keep colds from settling in the muscles of the young athletes, especially the runners. The best way to do this is to have each runner wear a heavy pair of long underdrawers while he is out on the track. These should be worn until spring, when all chance for cold is gone. If a cold once gets into a runner's muscles, it will give trouble for a long time and may cause a soreness that will last all season. During the time the boys are wearing these drawers, never let them pull them off to take starts or trials. They should do their work with them on.

The Track Work. Care at the First of the Season.

The trainer cannot be too careful at the first of the season, especially with beginners or even with boys who have previously done track work. On the first day out they will want to run races among themselves and to put in every particle of energy they have. As a result they frequently become sore and stiff and then get discouraged because they fall into worse physical condition than before they began training. Then, too, they find themselves incapable of doing as well as they expected and soon convince themselves that they can never become track athletes. At first, do not let them work hard or long at a time. It is necessary only for them to get the desired muscular action, to acquire better muscular coordination. If the training is be-

gun in the spring, it is even more necessary not to let them work too hard at first. Let the runners go only at about three-fourth speed, and when the work begins to punish them let them slow down to a jog and after getting rested go again. Be careful not to give them too long a "work-out." The point is never to let them work down completely in practice, but to see that they reserve their strength for later effort, and in the meantime acquire good muscular coordination. If this sort of practice is given regularly you will soon find them able to go a little farther each day.

"Warming Up"

In all cases a runner should spend a great deal of time in warming up before a race or hard practice; and under no consideration should he exert himself greatly unless his muscles are properly warmed and loosened up. Otherwise, he is likely to "pull" a tendon; and when once this has happened, that tendon can never be depended upon again. Ninety-nine out of every hundred troubles of this sort are caused by not warming up properly. The best way to warm up is to take easy swings up and down the track, gradually letting the muscles warm by this light use, and then dance up and down on the toes, bringing the knees up to the chest. The first should be practiced by distance men, while both should be used by sprinters. Sprinters should take especial care to get properly warmed up, because the sudden and strenuous exertion required of them is the most likely to cause trouble. On the day of the race have the runner go out half an hour before the race—especially if it is a cool day—and spend some ten or fifteen minutes warming up; then have him come in and have his muscles well rubbed, and keep him covered up warm until his race. Then, before he goes to his marks, have him spend a little time dancing about on his toes to get his muscles properly loosened. When waiting at the marks before a race, never keep still, keep dancing. If one stands still for a moment, the muscles will become set and will not respond nearly as well as they should.

Training the Runners

Trainers often make the mistake of spending too much time

in coaching the sprinters to get a quick start, saying that the sprint is won or lost there. That would be true only when the runners are of equal speed and strength, and it may hold for a very short sprint like the 50-yard dash; but it is a mistake for the standard distances. A quick start is very important, but it is not nearly as important as a strong finish. Generally, the man who wins races is not the one who is first away from his holes, but the first into his running, provided he has any "running," and then has the strength to finish hard. Have the sprinter spend most of his time in swinging along at about threefourths speed—a good fast swing. He should just let his legs carry him along, running smoothly, with a good stride. Have him swing anywhere from 100 to 250 yards, five or six times, after he once gets warmed up, until it begins to "pull"; then stop, dance around a bit, and go again. But all the time he should keep moving while in his running clothes. Have him work out of his holes only enough to keep familiar with them, and enough to connect his start quickly with his running stride.

By the swings he increases his speed, endurance, and stride; while the thing to work for in the starts, about one afternoon a week, is to get the connection between the start and the running stride as soon as possible. In the start, the main thing is the concentration of mind upon the exertion of all the muscular energies the instant the gun is fired.

For the longer runs, I have found it best in general to work a man beyond the required distance at a slightly reduced speed to develop strength and endurance, and under the required distance at a slightly greater speed to develop speed and staying ability. In the first I should say about one and one-half times the distance, while in the latter, about three-fourths the distance. (But in no case let your runner run until he is exhausted.) This will apply generally from the quarter mile up. However, I have found better results by sticking mostly to the under distance in the quarter, though that depends on the style of race he is to run. The style I like best in this race is to run from the shot of the gun all the way—that is, do not save back for a sprint at the finish. The quarter is, in fact, the hardest race on the program. My method for it is to start training the sprinter at the gait you expect him to have to run it—say, 52 seconds—and tell him to keep that gait until he

begins to tire, then to slow down to a jog. He should do this each day, after he has properly warmed up. You will find that he will be able to get a little farther every day, until he gets around 350 or 400 yards. Then the excitement of the race will easily carry him the remaining distance.

Remember never to let a boy run himself out completely except in a race. In a race he is out to win, but in practice he is preparing himself for the race and should, therefore, build up and conserve his physical energy in order to accumulate a large store for the great event. It is obvious that if he is allowed to run his strength out each day in practice he will not have the extra amount needed on the day of the race. Often you hear of a sprinter running a wonderful trial race a day or two before a meet and then not being able to repeat it on the day when he needs to. This is because he had exhausted his strength in the trial race and did not have sufficient time to restore it for the final race. The same is true of all athletes, the jumpers, vaulters and even the weight men. Never let your man try his best for the full distance oftener than once in each week. Don't let the runner carry a stop-watch, nor let him see you holding a watch on him, except now and then when estimating his pace. When constantly used, it does more harm than good.

THE FIELD EVENTS

Form is required more in the field events than in the track events, for, while many good runners have different styles of running, in the field events the regulation form is very essential. Therefore, in these it is especially necessary to begin work early in the year. In these, too, one should warm up gradually before trying hard, and in the jumps and pole vaults the warming up is just as essential as in the sprints and practically of the same nature.

The hammer depends on the number of turns taken. Of course, the form is the same, only, the more turns taken the less care can be taken for each turn. The left foot is kept on the ground and is slid back even just as essential as in the sprints and of practically the same nature.

The hammer and discus are worked on the same principle, that is, the turn is. One of the most essential things in the

throwing of these is to keep on the ground. Do not jump up in the air when turning. If so, you lose your purchase and the ground and you have no power back of your heave.

With the discus it is simply two quick swinging steps with the power of legs, body, and arm back of the throw when turned loose. On the beginning of the turns the hammer is ahead of the man pulling him around, but in making the swing around the man gets ahead of the hammer, and it again passes him about the time he slides the left foot back. So the hammer and man pass each other twice in making each turn.

The best way to get both the hammer and discus is to study it out for yourself. It will soon become clear to you.

In turning the hammer loose always throw it over your shoulder and never under, as the required elevation can not be got from below your shoulders. An elevation of about 45 degrees is what you should work for in all the weight events. The essential thing in the shot put is the simultaneous drive from leg, body, and arms. In the pole vault it is to get the slide; in the high jump, the kick and turn as the jumper rises above the bar.

In starting off with a beginner it is a good thing to put a short handle on the hammer until he gets the required form, then gradually extend it to the proper length. Don't let a boy become discouraged because he does not do well at first. It usually takes a long time for a man to become a good vaulter or hammer thrower.

"CONDITIONING"

One of the most necessary things for the trainer to do is to make a study of the habits and disposition of each individual he is trying to train. You rarely find two persons of exactly the same temperament, and, therefore, the work that suits one may not suit the other at all. A nervous, high strung boy should never be made to do the same amount of work as a slow, phlegmatic one. Sometimes you will see a trainer trying to make a whole squad of young fellows do the same kind and amount of work and wondering why some of them progress and others become stale. Always watch the men carefully and give them the work they seem to require. Always fit the work to suit the individual and never, under any circumstances, try to make

the individual fit the work. The central dominating purpose in the training is to work to get the athlete into the best physical condition possible at the time of the contest—not a week before or a week after, but on the day. It takes an experienced man to do that, and often he goes wrong. All will agree that for an athlete to put forth his best efforts, he must be in his best condition. It is in bringing about this condition that the trainers differ.

The hardest problem that confronts the trainer is to keep his men in condition after he once gets them there. It is impossible for a man to keep on a keen edge for a race any great length of time, therefore most trainers like to have a particular contest before them to work towards, and then try to bring the men into condition gradually so that they will be in the best of condition on the day of the meet. This is where the trainer must use judgment and common sense and exercise restraint. Often a man runs a good race in a preliminary meet a few weeks before the big event and then "goes back" before the real race comes off. That means that he has become stale. He did too much work and trained himself to too fine a point. It is better, when the great event of the season is at the close, to lose the early meets than to overtrain your men for them and run the risk of having them stale at the time of the great contest.

Never let the athlete use stimulants of any kind nor eat pies or any kind of pastry, coffee, greasy meats, biscuits or hot cakes while training. Everybody knows the harmful effects of stimulants. The other things are hard to digest, and, by remaining as a load in the stomach, tend to reduce the strength of the athlete, keeping him out of "condition."

A great many boys think that they should be in condition after training for two or three weeks. At the best this is impossible, for it takes more time than that to bring about the proper muscular development; and when boys have been going along for forty-nine or fifty weeks in a year, smoking and otherwise violating training rules, it is absolutely absurd to think they can get the effects all out of their system and be strong in a couple of weeks. To be an athlete one should take the best care of himself all the time. The better care he takes

during the winter, the better and quicker he will find his form in the spring.

You sometimes hear doctors condemn athletics as injurious, saying that it causes the heart to become enlarged, and, in after years, fat and flabby. This is true in lots of cases, but it is not the athletics that hurts, it is the sudden change from training to "breaking training." The man who lives a good, moderate and clean life the year round is not hurt by athletics. The man who has the fat and enlarged heart is the one who breaks training after football and track season by getting on a spree for a few days. It has been clearly proven that a properly trained and clean-living athlete will not be bothered with an enlarged heart. So if you lead a clean, consistent life, don't be afraid; athletics won't bother your heart, but will strengthen it.

IV

MISCELLANEOUS GAMES

The constant aim of every teacher should be so to organize the playground games that the largest number of pupils possible will participate in them. For that reason, preference should be given to those contests in which there may be a great many on a side. The wise teacher will not attempt to introduce every game to be found in a playground manual, but will select those few, say one or two for each group, which seem to appeal to the pupils most and which will engage large numbers—bearing in mind, of course, the educational value which the particular game in each case possesses.

In general, games are either team-games or they are individualistic. The former, such as football, baseball, basket-ball, etc., when properly directed teach the important lesson of co-operation, or team-work. The latter, including track and field events, develop individual prowess solely. Both kinds of games are valuable; but perhaps relatively the team games should be stressed more than the other kind, since team-work seems to be one of the most deeply felt needs of American life. In giving a place to such games, however, care should be exercised to see that the socializing, co-operative qualities are encouraged and brought out, and that the objectionable features so frequently accompanying such contests are reduced to a minimum. Since football, baseball, and basket-ball are games that require the assistance of a coach who has had actual playing experience, no space is given in this bulletin to a treatment of those games. Such few suggestions as might have been included herein would not be of use to a team that has no coach, and would be needless to a team with one. For printed material on the subjects mentioned, the high school player or coach is referred to the books given in the bibliography in the back of this bulletin.

One word, however, should be said about the much discussed and much abused subject of football. One great objection to football as a school game comes from the keen rivalry and

the anxiety to win, which is liable to lead teachers as well as students to give too much time to it, to resort to questionable means in order to win, and to harbor suspicions and ill-feeling against opposing teams. There is really no necessity for such a state of affairs, and teachers and students alike are appealed to, to unite in an effort to raise this fine game above the reproaches to which it is sometimes subjected because of the overzealous efforts to win. Let us keep always uppermost in our minds the determination to play fairly and to have respect for officials. Always have a thorough understanding with opposing teams as to terms and rules before the game, and then when it is over abide by the result. Always let the visiting team be treated as guests, both before and after the game. See that every precaution is taken to keep the field clear of spectators, and let coaches impress upon their players the principles of clean playing. Whenever it is necessary to go outside of the school faculty to get a coach, let him and the principal have a thorough understanding as to the conduct of players, time of practice, eligibility list, and schedule. Let the arrangement with other teams always be between faculty managers and not students, and let these arrangements be made as far ahead as possible. Do not schedule more than six or eight games with other schools during a season. Encourage class games. In the cities there could be a series of games among the ward schools.

Extra precaution must be taken against over-exertion, especially by younger boys and by those who have been injured. No boy should be allowed in a football game who is not of high vitality and free from constitutional weakness, and in every case a player who has been injured should be compelled to leave the game. Strict insistence should be made upon scholastic standards on the part of high school players. Not only will this help the school studies, but it will help to keep down professionalism.

SINGLE RELAY

This race is suitable to teams having large numbers. Like any other relay race, there must be the same number in each team, and each contestant runs only once. Each team is in single file behind the starting line. The first runner dashes

forward, touches a line fifteen yards in front, returns, and touches off the next runner, who runs as the first one did, and so on. The team whose last runner first crosses the finish line wins.

SHUTTLE RELAY

Divide each team into two equal numbers, facing each other 15 yards apart. The first runner of one division runs across and touches off the first one in the second division, who runs back and touches off No. 2 in the first division, and so on. The team whose last runner first crosses the finish line wins.

POTATO SHUTTLE RELAY

Line up as in shuttle relay, on lines 18 yards apart. On a line straight from the center of each team and five yards from the line, place a basket containing four potatoes. The first runner must take these potatoes, one at a time, and place the first one two yards beyond the basket, the next two yards beyond that, and so on. He then runs on and touches off the first runner in the second division, who must replace the potatoes, one at a time, in the basket, and touch off No. 2 in the first division, who distributes the potatoes again, and so on. The last runner, after replacing the potatoes in the basket, finishes in a dash across the line back of the basket. This requires that the number on a team be even, and not odd.

ALL-UP RELAY

Line up as in single relay. Fifteen yards in front of each line are two 3-foot circles touching each other and parallel with the starting line. In one circle are three Indian clubs or similar objects, standing upright. The first runner of a team runs forward, moves the clubs from one circle to the other, using only one hand, and returns, touching off runner No. 2, who runs and moves the clubs back to the first circle, and so on. The clubs must be left upright each time. Otherwise, the runner must return and place them upright before touching off another runner. The last runner to move the clubs finishes in a dash over the line, and the one who finishes first, wins.

PASS BALL RELAY

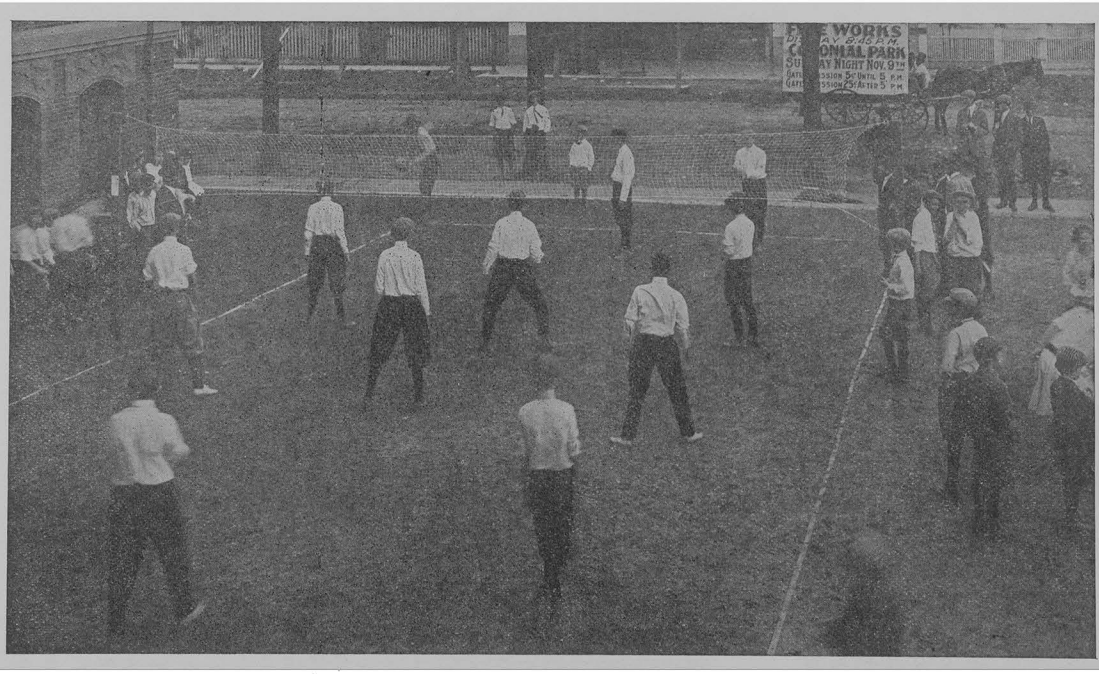
Teams line up in single file parallel with each other. The one in front, at the signal passes a basket ball over his head to the one behind, who passes it overhead to the next one, and so on. The last one in the line, on receiving the ball, runs around a fixed point in front and hands the ball to the one in the front of the line, and then takes position in front. The ball is passed back as before. When the one who was in front at first is in front again, the race is over.

TUG-OF-WAR

There may be a very large number on a side, but it is usually best to limit the number to not more than twelve on a side. The rope should be either four-and-a-half or five inches in circumference and made of manilla. There should be a clamp fixed at the middle, and the nearest contestant on either side should not be nearer than three feet of this clamp. There should be another clamp at the 3-foot mark on either side of the middle, to indicate this point, but it must be in front of the front contestant's hand. There must be no knots or other obstructions on the rope, and contestants must not wrap the rope around their arms, legs, or bodies, nor may they wear gloves or shields on the hands. They may use adhesive substances on the hands. No weights shall be worn except where teams are limited as to weight. If the required distance is not made by either side after five minutes, a rest of two minutes shall be allowed, and if after another five minutes' pull the distance has not been made, the award shall be made to the team having made the farthest pull.

VOLLEY BALL

This game is becoming very popular, and rightly so. It is the best of exercise for students who have spent hours seated at desks with shoulders bent, or for other classes of people who get little exercise of the arms, chest, and back. It may be played on courts of every size, and by any number on a side. The standard court is 25 feet by 50 feet, with a net 27 feet long and 7 feet 6 inches high at the middle, stretched across the middle of the court parallel with the ends, and attached to



A VOLLEY BALL GAME.

Notice position of server, and also of other players. The three front players of the server's side have turned to get their eyes on the ball as it is served.

posts 1 foot from the sides. Enlarge the court to suit large numbers of players. The ball is of rubber, from 25 inches to 27 inches in circumference, and from 9 to 12 ounces in weight. It costs from $2.50 to $4.00. The server stands with one foot on the back line. He bats the ball with open hand over the net into any part of the other court. A server may have two trials if the ball hits the net and rolls over into the court. If it does not go into the other court he loses his serve. A server continues to serve until he is retired by his failure to serve properly or the failure of his side to return properly. If the other side fails to return properly, it counts one point for the server's side. Twenty-one points make a game.

A service that would strike the net may be hit by another of the server's side and if it falls over the net in the other court it is a good service.

To be returned, a ball must be hit by a player's open hand or hands before touching the ground, and knocked over the net with or without touching it, into the other court. You must not allow the ball to touch your body, and you must not touch the net with your arms or body. You must not hit the ball twice before another of your side has hit it, but after the ball has been hit by another of your side, you may hit it and knock it over. Players on a side take their turns in serving.

A good player will cover a certain part of his court, and work with his team-mates. He will strike the ball with both hands, and pass to his team-mate at proper times. He will watch for uncovered spots in the other court, and try to put the ball there.

END BALL

This is a fine game for large numbers as a preparation for captain ball or basket-ball. It is especially good for girls.

Use a basket-ball. The court is 30 feet square, but may be larger to suit the number of players. Divide court into two equal parts, and draw a line parallel with center line, and 3 feet from each end line. In this end space put one-third of a team, and the other two-thirds on opposite side of center line. The ball is tossed up by official between two "guards" at the center. The one touching it first gets a free throw. The object is to throw the ball over the heads of opponents to one's

end players in the end space. Every time a ball is caught by an end player, it counts one point. A game lasts twenty minutes, divided into two ten-minute halves, with a three- or five-minute rest between.

It is a foul to allow a ball to roll into opponent's territory, to push, pull, or otherwise play roughly. On a foul, the opposing team gets a free throw, and when ball rolls into opponent's territory, it counts one point for opponents. If ball goes out of bounds, the player on whose side it went out may return it to a team-mate on opposite side of court.

BOUNDARY BALL

Played with a Basketball

Boundary ball is good training for basketball. It may be played by from six to fifty on a side. Divide the field into two equal parts. Place a team in parallel lines in each half of the field, the front line being 10 feet back of center line.

One player stands on his front line and starts game by trying to throw ball so that it will fall to the ground beyond the opponents' rear boundary line. The opponents may move up and down field to prevent this or to catch the ball. Where it is caught, that team lines up there and back of the spot where ball was caught, and the player tries to throw the ball back over the rear line of opponents. Each time ball falls over opponent's rear boundary line, it counts one point, and a game is five points. It is a foul to go into opponent's territory or beyond one's rear boundary line. On a foul, ball goes to opponents for a throw.

CORNER BALL

Played by a basketball, with from six to fifty on a side. Divide field into two equal parts, and in rear corners mark off goals 4 feet square. Players stand at even distances over field, one team on each side of center line, except that a goal man is in each goal at rear of opponent's field. The ball is started as in end ball, by a player at center. Each side tries to throw ball over opponents to the goal men. Each time such a ball is caught by a goal man, it is 1 point, and a game equals 21 points. When he catches the ball the goal man tries to throw it back to

his side for another attempt, and the other side tries to interrupt the throw. It is a foul to step outside of one's goal or for another player to step into his opponent's goal. On a foul, the ball goes to the other side for a throw from the center.

You must not run with the ball. Have team work. Do not throw too far, but pass to team-mates. Do not bunch up. Make your throws high and well aimed.

PASS AND GOAL BALL

This is a most excellent game, combining as it does the three features of speed, accuracy, and interest. Another advantage is that a large number may take part.

Each team has a basketball and basketball goal. Each team lines up in single file back of its goal, with nearest man 6 feet from the goal, and the players at equal distances apart. The ball is passed from the player farthest from the goal to the next man, and so on until it reaches the one nearest the goal, who tries to throw the ball in the basket, and keeps trying till he succeeds. He then runs to the rear of the line, and passes the ball to the next man, who passes it to the next, and so on, each man having moved up one place. When the last player has made the goal and raced back to the rear of the line, the game is over, and the side which finished first, wins.

CAPTAIN BALL

This game is played with a basketball, and there may be from ten to sixteen players on a side. Have a 3-foot strip dividing ground into equal parts. On each side, in a semicircle, arrange bases 2 feet in diameter, 6 feet apart, the nearest being at least 6 feet from the central strip, and a captain's base being inside each string of outer bases, at least 10 feet from them. A baseman stands in each outer base, with the captain in the inside base. On the outside of each base is a guard of the opposing team. The referee tosses up the ball in the neutral strip between two guards. The first to catch it with both hands has the throw. The object is to pass the ball to one's basemen. Each time it is caught by a baseman after a throw from another of that team's basemen, except the captain, it counts one point, and each foul counts one point for

the other side. If the captain catches the ball after a catch by each baseman in succession, it counts two points, and it also counts two extra points when all the outer basemen have caught the ball in the same play.

A catch by a captain from an outer baseman scores.

A catch from the captain does not score.

A second catch by the same baseman in the same play does not score.

It is a foul (a) to take more than one step with ball; (b) to hold it longer than 3 seconds; (c) to touch it while held by an opponent; (d) to touch or trip an opponent; (e) for guards to step into neutral or opponent's territory; (f) for guards to step into a base; (g) for a baseman to step out of his base with both feet at a time.

THREE DEEP

Three deep is especially popular with the younger children, but it is also frequently played by high school pupils with much enthusiasm. Its fun-giving qualities are unlimited. From eight to thirty can play it at a time. Arrange the players, except two, in pairs and let them stand in a circle, one player of a pair behind the other, and all facing the center of the circle. One of the two extra players chases the other one. The latter can dodge in and out of the circle at will. If he stops in front of a pair of players facing the center of the circle, he cannot then be caught; but that makes "three deep," and the one of the three who is in the rear then becomes "it" and must run or be caught. When caught, a player has to do the chasing, and the former chaser may take his stand in front of any pair, thus making "three deep," so that the rear player becomes "it" and must run.

TENNIS

The following advice on tennis was written by Dean John H. Keen of Southern Methodist University, one of the best known tennis players of Texas. It is printed here with his permission.

The notion that tennis is a lady's game has passed. Enduring wind and trained muscles are necessary to the modern game. Endurance must be the result of persistent effort on

the part of the player, it cannot be taught him by another. Skill, however, can be acquired much more rapidly, if a few suggestions as to practice are heeded by the coming tennis players of Texas.

1. Adjust the net to the correct height. Measure center by standing one racket on end and placing another racket with bowl edgewise on the top of the standing racket. The top of

JOSEPH AKIN, JR. HENRY AKIN.
Wichita Falls High School, second honors in state tennis meet of the University Interscholastic League, 1915.

the net ought to be even with the top edge of the upper racket.

2. Make your court hard and smooth. A split-log drag is the best simple instrument for smoothing surface. Wet the court and roll it when you can. Make lines of lime instead of tape. Court length is 78 feet, width 36 feet, service court 21 feet on each side of net, width of single court 27 feet.

3. Service. Stand *behind* the line of court. Both feet must

be at rest before the serve. One foot may be raised during act of serving, but no hop or jump or any forward motion by the feet is allowed until the racket touches the ball. One foot must always be still on the ground during the serve. It is very important to observe this in practice, for in tournaments, the umpire will call these service faults against the server, each fault constitutes a service fault.

Raise the ball high over the head as possible and hit it as it comes down. Aim at the far side of the service court. It is much better to put a service out than into the net. Learn to get the first service in.

4. Strokes. Accuracy should be the first aim of beginners. Speed will be added later. Place balls along the side lines or at the feet of the receiver. Always play the ball deep—toward back line.

Both backhand and forehand strokes should be made with the same face of the racket, shift your grip a little. Follow the ball through with your racket, don't push it. Use your backhand stroke, don't run around the ball to take it on your forehand. The lob (high return) should be made as deep into the receiver's court as possible.

5. Position. In singles, when serving, stand near the middle line. That enables you to cover the court more effectively. If you are playing back, stand behind the back court line; if you play net, stand three feet inside the service court.

In doubles, the whole aim is to win the net position. If your opponents are back, always rush the net—stand about three feet inside the service line. If your opponents have gotten to the net, stay back and lob them deep, endeavoring to drive them back so you can take the net. Most young players get too close to the net. It is an error to hit a ball before it comes over the net, or to run into or hit the net in any way.

6. Rackets. P. A. Vaile, the tennis expert of America, says: "Cheap rackets are generally dear. Don't buy rubbish." A man should use a 14 oz. racket, a lady a 13 oz. racket. Don't use too heavy a racket; it makes for slow strokes. Buy a good racket and when the strings break you can have it restrung and it will be as good as new. Cheap rackets cannot well stand the strain of good strings. It will cost you only $2.50 to have your

racket restrung with the best gut made, and you will be deprived of the use of your racket only one day plus transportation.

CLASS AVERAGE CONTESTS

Class average contests are for the purpose of getting the entire body of students to take part in games and athletics. Since they reach those students who need attention most, such contests should receive every encouragement from the teacher.

The groups may be on basis of school, grade, age, weight, or height. Where there is competition among several schools for the highest school average, it may not be necessary to make any division as to weight, class, etc., if the schools are anything like the same size and kind.

At least 80 per cent of a group should be required to take part in each event selected. The average is found by adding the total number of points made in each event, dividing this by the number taking part or by 80 per cent of the group where less than 80 per cent take part, and then dividing the sum of averages in the various events by the number of events. The result would be the all-round class or school average.

There may be competition between classes in a school or between different schools as to highest average made by any one class. For instance, there may be a contest between the sixth and seventh grades in a school for the highest average, giving a slight handicap in favor of the sixth grade, or in favor of all in either grade who are below a certain weight or height. There may be contests between all the high school grades on the same basis. Several schools may compete for the highest average made by some particular grade, or by a particular weight or height class.

A plan for a county-wide contest in this most desirable form of athletics was first worked out by Mr. E. L. Allen and adopted by the schools of Westchester county, N. Y., in 1910. So successful did it prove and so obvious were its good points that county schools in various parts of the country have recently adopted it. A description of the plan mentioned may be had from the Y. M. C. A. Press, at 124 East Twenty-eighth Street, New York, for 10 cents.

The plan mentioned above is for boys only. Below is given a modified form of the plan, made simpler by reducing the five weight classes to three and containing a Girls' Division.

CLASS ATHLETICS FOR HIGHEST AVERAGE STANDING

General Rules

1. *Eligibility.*—Every boy weighing 60 pounds and every girl 9 years old or over is eligible, unless pronounced by teacher or physician to be physically unfit, or unless written objection is made by the parent.

2. Every eligible pupil competes in each event.

3. The record in each event is found by dividing the total number of points made by all pupils in a class by the number taking part or by the number of eligibles. If the number of eligibles is less than 80 per cent of the class, divide by the number representing 80 per cent of the class.

4. The records for all events, for a class, is found by dividing the sum of records in the various events, by the number of events, or by four for boys and three for girls. The school record for Boys' or Girls' Division is found by dividing the sum of the records of the three classes of a division by three. The All-Round School Record is found by averaging the records of Boys' and Girls' Divisions.

5. For boys, there are three weight classes, as follows: 100-lb. class, or all weighing 60 lbs. and not over 100 lbs. 125-lb. class, or all weighing over 100 lbs. and not over 125 lbs. Unlimited class, or all weighing over 125 lbs.

6. For girls, there are three classes according to age, as follows: 12-year class, or all 9 years old and not 13. 14-year class, or all 13 years old and not 15. Unlimited class, or all 15 and over.

7. A boy is weighed on the day of the first event. He must be weighed by the teacher, and must be in his shirt sleeves and with shoes on. A girl's class is determined by her age on the day of the first event.

8. There are four events for boys and three for girls. It would be well to hold the events in the order given in this bulletin. No two events for one division should be held nearer together than two weeks.

9. Each contestant scoring 50 points in each event will be placed in the Honor List as being up to the average all-round athletic standard, and each boy or girl who scores 100 points in

each event will be placed in the 100-Point Class and should be presented with an appropriate badge.

10. A complete record of each contestant should be preserved, and his or her ranking with all the contestants of the school or county should be made.

11. *Championships.*—(1) The weight- or age-class having highest ranking in a school is a Weight- or Age-Class Champion of the School.

(2) The weight- or age-class having highest ranking of all schools in the same weight- or age-class will be Weight- or Age-Class Champion of the County for that weight- or age-class.

(3) The weight- or age-class having highest ranking of all weight- or age-classes of all schools will be All-Round-Weight- or Age-Class Champion of the County.

(4) The school having highest ranking in Boys' or Girls' Division, of all schools in the county, will be School Champion of the County in that division.

(5) The school having highest average ranking in both divisions will be All-Round School Champion of the County.

(6) The individual having highest standing in the school in his or her division will be Individual Champion of the School for that division.

(7) The individual having highest standing in his class in the county will be individual champion of the county for that class.

(8) The individual having highest standing in the county for all classes will be All-Round Individual Champion of the County.

BOYS' DIVISION

Events and basis of scoring are given below:

100-lb. class—	Points.	Honor Standard.	100 Points.
Standing broad jump..	3 ft. 11 in.	6 ft.	8 ft. 1 in.
80-yd. dash.....	14 sec.	12 sec.	10 sec.
Chinning	3 times	7 times	11 times
Baseball throw.....100 ft.		150 ft.	200 ft.

125-lb. Class—	Points	Honor Standard.	100 Points.
Standing broad jump..	4 ft. 8 in.	6 ft. 6 in.	8 ft. 10 in.
100-yd. dash.....	15 3/5 sec.	13 3/5 sec.	11 3/5 sec.
Chinning	4 times	8 times	12 times
Running broad jump..	8 ft. 6 in.	12 ft. 8 in.	16 ft. 10 in.
Unlimited Class—			
Standing broad jump..	5 ft. 5 in.	7 ft. 6 in.	9 ft. 7 in.
100-yd. dash.....	14 sec.	12 sec.	10 sec.
Running high jump....	3 ft. 3½ in.	4 ft. 4 in.	5 ft. 4½ in.
Putting 8-lb. shot.....	22 ft. 6 in.	35 ft.	47 ft. 6 in.

Points shall be scored as follows:

Dashes, for each 1/5 sec. better than minimum.....5 pts.
Standing broad jump, for each ½ in. better than minimum.1 pt.
Chinning, for each time better than minimum.....12½ pts.
Running broad jump, for each inch better than minimum.1 pt.
Running high jump, for each ¼ in. better than minimum.1 pt.
Putting 8-lb. shot, for each 3 inches better than minimum.1 pt.
Baseball throw, for each foot better than minimum.....1 pt.

GIRLS' DIVISION

The events with basis of scoring are as follows:

12-Yr. Class—	Points.	Honor Standard.	100 Points.
Basketball throw.....	12 ft.	22 ft.	32 ft.
Potato race.....	26 sec.	24 sec.	22 sec.
Standing broad jump..	3 ft. 8 in.	5 ft. 9 in.	7 ft. 10 in.
14-Yr. Class—			
Basketball throw.....	22 ft.	32 ft.	42 ft.
Potato race.....	25 sec.	23 sec.	21 sec.
All-up Indian club race.	32 sec.	30 sec.	28 sec.
Unlimited Class—			
Basketball throw.....	28 ft.	38 ft.	48 ft.
All-up Indian club race.	30 3/5 sec.	28 3/5 sec.	26 3/5 sec.
Bean bag target toss..	30 points in 1¾ minutes.	65 points in same time.	100 points in same time.

Points shall be scored as follows:

Potato race, for each 1/5 sec. better than minimum.....5 pts.
Potato race, for each 1/5 sec. better than minimum.....5 pts.
All-up Indian club race, for each 1/5 sec. better than minimum .....5 pts.
Standing broad jump, for each ½ in. better than minimum 1 pt.

Bean bag target toss, for each toss give points as per description given below. Give no points for a score of not over 30 in the time limit of 1¾ minutes.

RULES GOVERNING THE EVENTS

1. *Basketball Throw.*—A girl must stand back of the throwing line and throw with one hand. She must not run before the throw. She must not step over the line in throwing; to do so is a trial without result. Three trials are allowed.

(2) *Potato Race.*—This must be run according to the rules for potato race on page 40 of this bulletin.

3. *All-up Indian Club Race.*—Two tangent circles, each 3 feet in diameter, are 30 feet in front of starting line. In one circle are three 1-lb. model BS Indian clubs, upright. A girl runs from starting line, and transfers clubs to the other circle, using only one hand. She returns to the starting line, then makes two more trips, transferring clubs each time. The clubs must be left upright each time. She then finishes in a dash across the starting line. One trial allowed.

4. *Bean Bag Target Toss.*—Draw on the ground three concentric circles, with diameters of 2 feet, 4 feet, and 6 feet, respectively. A girl stands back of a line 10 feet from outer circle, and tosses a bean bag 6 inches square and containing ½-lb. of beans. If the bag falls within the inner circle, it counts 15 points; if between the inner and middle circle, it counts 10 points, and if between middle and outer circle it counts 5 points. Only 1¾ minutes are allowed each contestant. After each throw a girl must run and pick up her bag and return to throwing line. Two trials are allowed.

HOW TO PROCEED

1. After enrolling your school for the contest, provide the necessary things, such as stop-watch, measuring tape, jumping pit, basketball, shot, etc.

2. Make a short talk to the pupils, explaining the contests.

3. Get prizes offered for the winning classes and individuals.

4. Weigh the boys so as to give them an idea of what class they will be in. Classify the girls by age.

5. Appoint leaders of the various classes.

6. Hold preliminary contests to let the pupils know what they can do.

7. Provide the following blanks, which will be supplied on request by the State director:

(a) Individual Record Cards.

(b) Record Card for each Boys' Division.

(c) Record Card for each Girls' Division.

8. On the day of the contest, weigh each boy and assign to proper class.

9. Give list of eligibles in each class and list of those excused.

10. In holding the test, be very careful to be as accurate as possible. Record each pupil's effort.

11. Make out complete report of the test as per forms supplied, and send to the Secretary or Director promptly.

OTHER EVENTS FOR CLASS-AVERAGE CONTESTS

Where there are several grades or classes in the same school, or several wards in a city or town, competitive games may be used for class-average contests. Some such games, in which large numbers may take part, are: End ball, corner ball, all-up relay, pass ball relay, shuttle relay, potato shuttle relay, single relay, volley ball, tug-of-war, pass and goal ball.

Sometimes, in order to stimulate interest, it is desirable to have a somewhat different method of finding the class standing than that described above, where competitive games are used. For instance, in such contests as the relays mentioned above, it may be desirable to allow 10 points to the winning class in a dual contest, and require three games to be played by each class. If a class wins three games, its average standing is 30. If a class does not win a game, its class standing is zero. This method is simpler than others, but not quite satisfactory in determining the real amount of proficiency shown by each class.

In volley ball, large classes may be divided and opposing sec-

tions in two classes paired off by lot, each side being entitled to all the points it makes, and the winner being given five additional points. Basketball may be used in the same way, as also end ball, corner ball, and captain ball.

VI

THE ATHLETIC BADGE TEST

To encourage the boys of ordinary or undeveloped physical powers to practice to attain greater all-round efficiency, the Playground and Recreation Association of America recently adopted a standard for three different stages of development, and offered a suitable badge to every boy in the United States who would qualify in one of these three classes. Below is given a similar plan, and any boy or girl may obtain one or more of the three badges upon qualifying for the same. Only one badge may be obtained by a pupil in any one year.

Class A

Chinning, 4 times.
Standing broad jump, 5 feet 9 inches.
Sixty-yard dash, 9 seconds.

Class B

Chinning, 6 times.
Standing broad jump, 6 feet 6 inches.
One-hundred-yard dash, 14 seconds.

Class C

Chinning, 9 times.
Running high jump, 4 feet 4 inches.
Two-hundred-twenty-yard run, 28 seconds.

Provisions as to the Badge Tests.—(1) To secure one of the badges, a boy must be in regular attendance at a school in the University Interscholastic League. (2) He must qualify in all three events in a class. (3) The tests must be made under the direction of the teacher. (4) The teacher must certify to the University Director of Interscholastic Athletics that the boy has qualified for the badge applied for according to the requirements. (5) For chinning, the rules governing that event found elsewhere in this Bulletin must be observed; so also in the broad and high jumps. Only one trial shall be allowed in chinning, one in the running events, and three in the jumps. (6) In the running events, a stop-watch must be used. (7) Only one badge may be obtained by the same boy in any one year.

The Badges.—On qualifying in any one of the three classes, a boy may secure from the Executive Committee of the University Interscholastic League a bronze badge with suitable inscription, by payment of 15 cents to cover the actual cost of making it. All the badges are of bronze, but of different design. They are inexpensive, but neat, and represent physical attainment, and not money value. Each school in which pupils win these badges will receive a certificate of the same, containing the names of such pupils, and this can be hung upon the school wall.

ATHLETIC BADGE TEST FOR GIRLS

The Executive Committee of the Interscholastic League also offers similar bronze badges to every girl in a school in the League, under the same general provisions stated for the Boy's Athletic Badge Test, except that the events, with the standard in each, are as follows:

Class A

Potato race, 42 seconds.
All-up Indian club race, 30 seconds.
Bean bag target toss, 100 points in 2 minutes.

Class B

Potato race, 39 seconds.
Basketball throw, 36 feet.
Balancing, with bean bag on head, 24 feet.

Class C

All-up Indian club race, 26 seconds.
Bean bag target toss, 150 points, 2 minutes.
Basketball throw, 42 feet.

Special rules for the Girls' Athletic Badge Test are:

(1) The rules governing the potato race, basketball throw, all-up Indian club race and bean bag target toss that are given under Class Athletics, Girls' Division, p. 52 of this Bulletin, shall also govern in this Badge Test.

(2) A beam or piece of timber 2 feet wide and 12 feet long is used. A girl must, with bean bag on her head, start at the center, walk forward to the end, then without turning she must walk backward to the center; then she must turn and walk forward to the end, then turn and walk to the center. Only two trials are allowed. The bag must not be touched by the hand.

Finish of a girls' 50-yd. dash. Notice the hands thrown up so as not to hit the tape with the arms.

VII

ATHLETICS FOR GIRLS

Until recently, little attention was given to athletics for girls. But we recognize now the truth that girls' athletics are equally important with athletics for boys, although for somewhat different reasons. A boy's athletics afford an outlet for his inherited fighting instinct, and must be more or less violent and the rivalry keen. But for girls it is not the case. Great harm has been done to girls' athletics by making them merely an imitation of boys' athletics. For girls, no events should be included that call for violent effort or great endurance. Interclass contests are preferable to inter-school contests. Team games are better than individual rivalry, and games in which large numbers can take part are most to be encouraged. Volley ball is especially fine for the lower grades, but need not be confined to them. The shuttle relay, or single relay, when once introduced, will have a constant appeal and will enlist large numbers of pupils. Aside from the folk dances and singing games which should occupy a prominent part on the program, the following is suggested as a suitable list of events for a girls' athletic meet. By no means should anything like all of the events given be tried in the same meet. Local conditions must determine which ones should be selected.

Fifth and Sixth Grades

Thirty-yard and fifty-yard dash.
Walking with hands suspended from horizontal ladder.
Relay race (each girl running 30 yards).
Shuttle relay.
Potato relay.

Seventh Grade

Fifty-yard and sixty-yard dash.
Volley ball.
Potato race.
Basketball throw.
Walking with hands suspended from horizontal ladder.

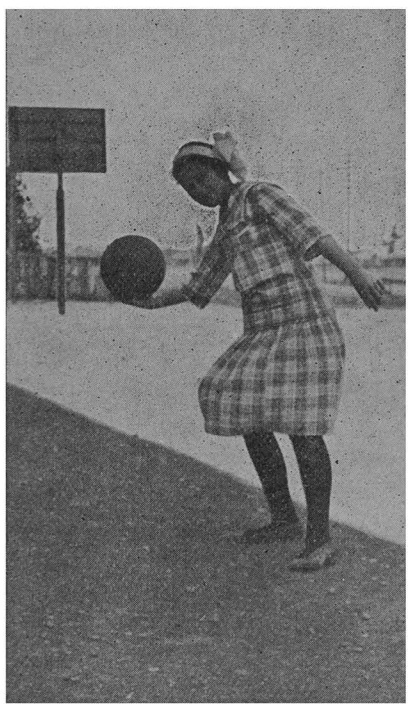
Relay race (each running 30 yards).
Basketball.
Bean bag target toss.
Potato shuttle relay.

Eighth and Ninth Grades

End ball.
Volley ball.
Pass ball relay.
Pass and goal ball.
Basketball throw.
Basketball.
Tennis.

Tenth and Eleventh Grades

Volley ball.
Pass ball relay.
All-up relay.
Shuttle relay.
Basketball throw.
Corner ball or end ball.
Pass and goal ball.
Captain ball.
Tennis.



A champion basket ball thrower of the Dallas Public School Athletic League.

VIII

CONDUCT OF AN ATHLETIC MEET

Any athletic meet, whether large or small, should be conducted in an orderly manner. Otherwise, little will be accomplished, and pupils will fail to get the lesson of discipline which is by no means the least lesson to be learned from athletic training.

(1) *Organization.*—The following committees for anything like a large meet will be found helpful:

(a) *Games Committee.*—The central committee to look after the meet generally, secure officials, and hear reports from the other committees.

(b) *Publicity Committee.*—To give announcements to the press, get out circulars, and keep the meet before the public in various ways. This committee may also act as an Invitation Committee.

(c) *Finance Committee.*—To sell tickets, keep the gate, take charge of money, and settle bills.

(d) *Ground Committee.*—To see that the ground is properly laid off, and that the necessary equipment is provided.

(2) *Officials.*—The necessary officials, together with their duties, are given in the Constitution and Rules of the University Interscholastic League. If you do not have a copy of this bulletin, send for one.

(3) *Entries, Programs, etc.*—The various committees must see that entry blanks are filled out, programs published, and contestants properly numbered.

A COUNTY MEET

(1) Let the county director call a meeting of the executive committee early in the school year, so that place and time of meet may be set, and steps taken to enlist a large number of schools in the meet.

(2) Send to the schools of the county an announcement of the meet, with list of events, prizes, etc., and canvass the schools for entries. Be sure that all rules for the meet are duly announced to all prospective contestants.

(3) Require every school to send to the Director one week before the meet an entry blank showing the name of each contestant and the events for which he enters. A copy of the entry blank for county meets of the University Interscholastic League is given on page 87 of this bulletin.

(4) As the time approaches for the meet, the various committees must set to work to see that the meet is well advertised, officials secured and checked, grounds prepared, etc. Everything depends upon having things ready. Keep after the various schools and get all the entries in within the time limit, which should be one week in advance. Do not allow any entries, or changes in the same, after the time is up. To do so will lead to constant confusion. See that all the equipment necessary for running off the different events, such as tape measure, jumping standards, pit, etc., is looked after in advance. Some one person should be made responsible for the equipment.

(5) After the entries are all in, have a committee to arrange them, drawing for heats, places, etc. Let all the drawing for places on the track and for the order of trials in field events be done in advance, and have the same published in the program if you have time for this. At any rate, place a copy of the arrangement in heats, etc., in the hands of each official.

(6) Publish your program showing the exact time the meet will be called, order of events, names of officials, lists and numbers of contestants, with heats and places indicated. Call attention in the program to the importance of everyone being on hand when his event is called.

(7) See that proper provision is made for controlling the spectators, and do not permit them to crowd onto the field. Nothing will mar an athletic meet quicker or more completely than to allow spectators to interfere with the running of the different events.

(8) Finally, see that each official is instructed as to his duties, and is on hand for his part in the meet. See that matters do not drag, but pull the events off on schedule time. If contestants are not on hand for their respective events, go ahead without them. Do not try to hold a meet by having just one event at a time. Have separate sets of officials for the track events, the jumps and vaults, and the weights, and run them off simultaneously.

LAYING OFF AN ATHLETIC FIELD

(a) *The Track.*—If you have the room, a quarter-mile track is the most desirable length. But a great many fields are too small for a quarter-mile track. Probably the one most commonly practicable is the track with six laps to the mile. To lay off such a track, proceed as follows:

On a line 322 feet 2 inches long, mark off A and B, 98 feet 6 inches from each end. With these points as centers describe semicircles facing each other, with radius of 98 feet 6 inches. Draw tangents to these semicircles parallel with the original line. These tangents, with the semicircumferences, form the track, but it is measured on a line 1 foot 6 inches outward from the circumferences and tangents. A straightaway 100-yard track can be laid off diagonally across the field, or, better still, if you have room, let the 100-yard straightaway be along the side of the main track where the finish of other races are, only starting, of course, farther back. The 120-yard hurdle track should also be along this line, and should be straight throughout. There will be room for jumping pits, pole vault, 7 foot circle for shot put, hammer, etc., inside the track. But it is much better to have the hammer and discus throw entirely away from the main field, on the opposite side from the crowd. A baseball field can be laid by starting at one end of the longest line across the field, for the home base. Also a football field can be laid off lengthwise the field. The best track is a mixture of good loam with cinders and a little clay. An all-cinder path is not good, as it gets too hard. The ideal path is one that does not get hard and dusty when dry, nor too soft when wet.

(b) *Jumping Pit.*—The take-off board should be a joist 8 inches wide flush with the ground, and the earth should be dug out 3 inches deep for 2 square feet in front of the take-off. The earth should also be loosened in front of the take-off to a distance of 24 feet. The run-way for the running jumps should not be too hard, but the earth should be firm enough to give speed. The run-way should be level.

(c) *Seven-foot Circle.*—The circle for the hammer and discus, if not off to one side, as suggested above, should be near the

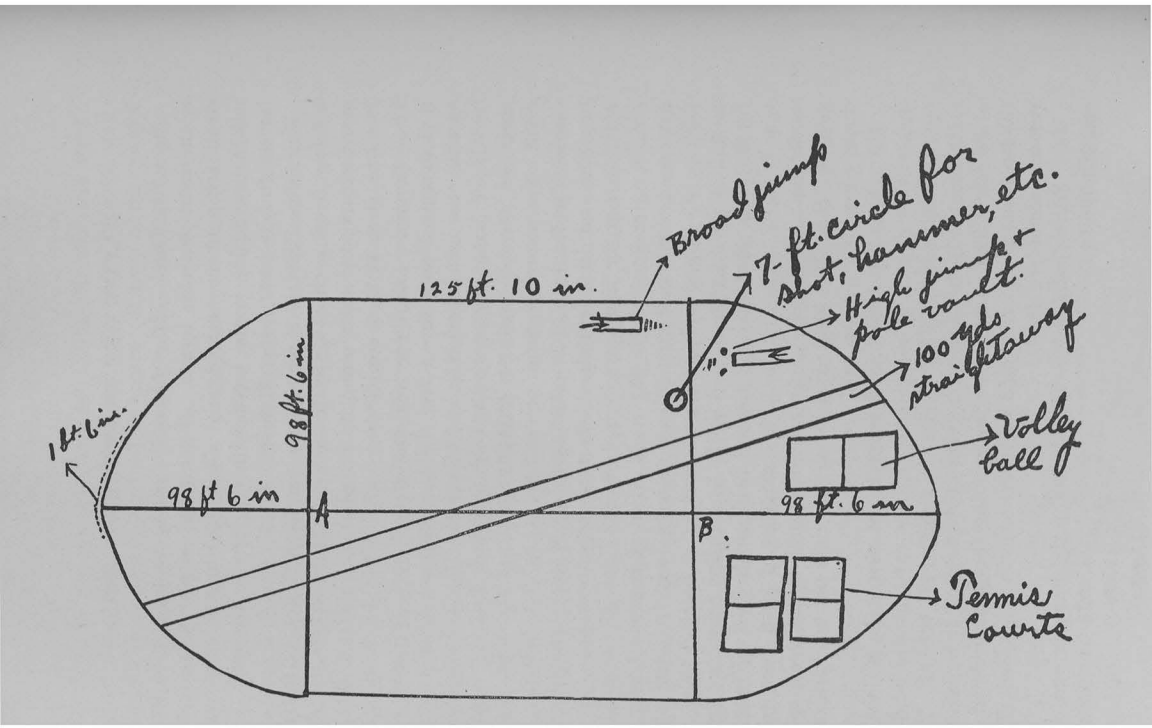


Diagram of Athletic Field.

middle of the field, the throwing being done in the opposite direction from the jumping and vaulting.

(d) *Baseball Field.*—If the same ground is used for a baseball field that is used for track, let the line of home and second base be on the line running through center of field parallel with the tangent as described above. Place the home base 34 feet 10 and 3/8 inches inside the field on this line. At the point where track begins to curve, draw a perpendicular to the straight part of track, and 34 feet 10 and 3/8 inches inside track on this line, place first base. On the same line, 34 feet 10 and 3/8 inches from opposite side, place third base. From first and third bases draw perpendiculars to the lines going from those bases to home base. These will meet at second base.

(e) *Football Field.*—The same ground may be used for football that is used for other events. It may be laid off somewhat diagonally across the track, so as to get the longest distance. After drawing the longest diagonal of the track, measure off on it 360 feet. Draw a parallel to this line on each side 80 feet from it. The resulting rectangle is the field of play. Thirty feet inside each end line, draw a parallel with it. These are the goal lines. The goal posts are on the goal lines, 18 feet 6 inches apart.

(f) *Basket-ball, Volley Ball, etc.*—These may be laid off in the opposite corner of the field from the jumping pit, etc., as stated above. The dimensions of a basketball court may vary a little, but are usually 50 by 70 feet. A court should not exceed 4000 square feet. Volley ball courts vary in size to suit the number of players, but the standard court is 25 by 50 feet. The details about dimensions, etc., may be found in the 10-cent volumes on the various games, published by the American Sports Publishing Company, New York.

EQUIPMENT FOR ATHLETIC MEETS

(1) *General.*—To conduct an athletic meet properly, you should have, besides a well laid off ground, the following: Several good measuring tapes, plenty of lime for marking stakes, hammer, saw, etc., one or more balls of twine, stop-watches, starter's pistol, entry blanks, score cards, programs, flags, relay sticks, competitors' numbers, and megaphone.

(2) *Running.*—All straightaway races should be run in lanes,

one for each runner, the lanes being marked off with lime or whitewash or with stakes. For the hurdle races, use ten hurdles for each runner, each being 30 inches high. The hurdles can be very easily made by the students, out of light strips of pine, using two short strips at the bottom of the frame for it to rest on.

(3) *Jumping.*—For the broad jump, have a board 8 inches wide and 3 feet long sunk flush with the earth for the take-off board. Fasten the board in the ground with bolts at least 2 feet long. In the high jump, make two uprights as follows: Two spruce or pine poles 2 inches by 2 inches by eight feet long. Use for base of each upright two strips 22 inches by 4 inches by 2 inches. Use ordinary shelf brackets to brace the uprights on the bases. Bore holes through the uprights 1 inch apart, beginning 18 inches above the ground. About 4 feet from ground the holes should be every quarter inch. Run a fish cord through the holes, and attach two shot bags for weights. Be sure that cord does not sag in the middle. It is always best at important meets to use a stick for cross-bar instead of a cord, and the stick should always be replaced with the same side up. If stick is used, let it rest on small pegs, which should point in the direction of the jump, and reach not over 3 inches from the uprights.

(4) *Pole Vault.*—Uprights for vaulting may be made similar to those for jumping. In fact, the same ones may be used, provided they are high enough. The pole should be 12 or 14 feet long, and the best material is spruce. Each contestant ought to have his own pole.

(5) *Weight Events.*—A 7-foot circle may be made from old wagon tires. The toe board is easily made, and consists of a piece of wood four feet long and curving with the circle, and 4 inches high. As in the case of take-off board, it should be firmly fastened to the ground with long rods driven down at least 2 feet.

A shot, hammer, discus, etc., should be furnished by the management of the meet. But a contestant may use his own materials if they are correct in weight, size, etc.

A FEW DEFINITIONS

(1) *Amateur and Professional.*—Briefly, an amateur is one

who takes part in athletic contests for the love of them, or for the benefit, physically, or otherwise, to be derived.

A professional is one who competes in athletics for a living.

In order to protect and encourage amateur sport, the Amateur Athletic Union and similar organizations have drawn very strict lines between an amateur and a professional, and as a rule those who enter contests under the direction of amateur organizations are forbidden to compete with professionals. An amateur becomes a professional when he competes for money or other valuable consideration, when he becomes connected with a professional club, or when he competes with or against professionals. The detailed rules on this point are found on pages 98 and 99 of No. 12A of the Spalding Athletic Library.

(2) *Novice.*—A novice is one who has never won a prize of any kind in an athletic contest.

(3) *Handicap and Scratch.*—A scratch race or contest is one in which all contestants have the same chance. In a scratch race, all start from the same line and at the same time. A handicap is an allowance in time or distance in favor of one or more of the contestants. Very often it is desirable to have handicap events. A meet among the students of the same school or town where there is great difference as to ability may be made extremely attractive and interesting by having handicap events. For instance, suppose in a 100-yard dash there are five boys, and at the time the winner crosses the line No. 2 is two yards behind him, Nos. 3 and 5 and are each 1 yard behind No. 2, and No. 5 is six yards behind Nos. 3 and 4. Then handicap them as follows: Set No. 5 on the line. Set Nos. 3 and 4 six yards back, No. 2 seven yards back, and No. 1 nine yards back. That gives all an equal chance to finish first.

IX.

PLAYGROUND EQUIPMENT

By C. C. Foster,
Principal of Alexander Hogg High School, Fort Worth, Texas.

The first essential of playground equipment is a play leader. Without the latter, the most elaborate appliances will be a waste of money and effort in obtaining them. Every teacher can, to a limited extent, become a play leader, granted that there is an abiding love for the free, joyous expression of children's lives in play.

The improvement of the playground should be carefully

Outdoor exercise at Mooreville Rural School, Falls county, by means of a giant stride made by the pupils and their teacher, R. H. Moodie.

planned before any work is done on it. Any change in the location of appratus after it has been erected will be wasteful and expensive, and any change in the distribution of pupils will require a change of apparatus.

The plan is important in every detail, from the grading and surfacing of the ground and the distribution of the children to the erection of the last piece of apparatus and the planting of trees and flowers.

The ground should be graded so that it will drain without washing away the surface. If the slope and extent of the ground make a terrace necessary it should be sodded with squares of living grass to prevent the wearing away of the terrace. Level ground is very necessary for any kind of game, or apparatus. A grade of five inches to the one hundred feet has been found satisfactory. If the surface is properly constructed it will be easily kept in good condition with this grade. The best surface is probably the clay and sand combination. Put on pure clay two inches deep after the ground has been graded and well rolled with a heavy roller, a steam roller if possible. After the clay has been leveled with a rake and powdered as much as possible, apply a coating of sharp sand—the sand specified in all concrete work. Roll again and sprinkle on more sand. Then sprinkle with water until the clay is moistened and allow to remain till next day. Sand the surface if any clay shows and roll thoroughly. It will be necessary to put a little sand on in low places occasionally, but there will never be any stones to come through. A ground of this kind is suitable for games, drills, dances, and evening entertainments.

If the children are kept off of it during extremely wet weather it will dry quickly and there will be no mud and dirt to track in. Furthermore, the saving in shoe leather will pay for the surfacing in a year or two.

The distribution of the children should be made according to age and sex, and space provided for their several occupations. This is not only to protect the weak from the strong, the younger from the older, but because their interests and activities vary according to certain well known principles of child development. There are stages of development of the play instinct analogous to the stages of mental development of the child. The very young child is content to play alone with his toys. Later he craves society, as the social instinct begins to develop, and likes to play in groups, but not in a team. At eleven or twelve the team spirit begins to develop,—the gang spirit and the gang-leader. This is fundamental and most important. Here, on the playground, in their games, leadership and co-operation are learned and developed, most important functions of citizenship. Therefore ample space and equipment for games involving team

work should be provided for all the pupils over ten or eleven years of age. Football and baseball require too much space to be considered. Basket ball, volley ball, and playground ball are very popular with both sexes at all times of the year wherever they have been tried. The minimum space for basketball or volley ball is about fifty by thirty feet, and for playground ball or indoor ball fifty by one hundred feet. Spaulding supplies the rules for these games.

Therefore the plan for the playground should contemplate a space for small children, equipped with suitable apparatus, and separate spaces for the larger boys and girls, properly divided off for as many team games as possible and equipped with some apparatus. For the primary pupils the apparatus is of first importance; for the larger pupils the game equipment should be provided first and apparatus supplied as funds permit.

The selection of apparatus and its location on the ground should be carefully planned before any work is done. For small children use the swings, slides, giant strides, see-saws, sandboxes. It has been found that these children seldom use the horizontal bar if these other things are provided. For the larger pupils the boys like the traveling rings, slides, horizontal bars, vaulting bar, parallel bars, and horizontal ladder; and the girls prefer the swings and horizontal ladder. All ages and sexes like the giant stride. Boys like the trapeze and trapeze rings but they are very dangerous and should never be put up. The large group swing has no place on the playground because it encourages inactivity and laziness.

Directions for construction and cost of materials for any of the apparatus mentioned above will be found on the following pages.

EQUIPPING A PLAYGROUND AT LEAST COST

The exorbitant cost of manufactured playground apparatus places it beyond the reach of most schools. Recently, however, a number of practical teachers have solved this problem of cost by the construction of home-made appliances. Home-made apparatus has the advantage of cheapness, but it often lacks that other essential, durability. The problem of supplying really serviceable and durable apparatus at the lowest possible cost has been worked out satisfactorily and the descriptions and pictures

in this bulletin are intended to assist the teachers of Texas in equipping their playgrounds with home-made apparatus. The actual cost of each piece described was from one-third to one-fifth the cost of the manufactured article. The exact cost will vary slightly with the varying prices of the material in different localities, but the local dealers can furnish you with this cost if you will take the bill of goods for the different pieces given below. Boys from 12 to 16 years of age in any school can make any of the appliances if properly directed by their teachers.

TOOLS NEEDED

The tools used in the construction of the apparatus were as follows:

Pipe vice large enough for 2½ in. pipe.

Pipe cutters large enough for 2 in. pipe.

Hack saw.

Set of stock and dies for threading pipe from 1½ in. to 2 in.

Two 36-in. Stilson wrenches; one 18-in. wrench, one 10-in. wrench. (These were rented.)

Blacksmith's post drill with ½-in. and 1-in. bits.

Set of dies for threading ½-in. bolts.

Spirit level.

Emory wheel.

Hammers, saw, brace and bits.

Post-hole diggers, spades, and shovels.

(Some machine shops charge 10 cents for each cut, 10 cents for each thread, and 10 cents for each hole drilled. Others charge 75 cents per hour for each workman employed on job.)

GENERAL SUGGESTIONS

All pipes and pipe fittings used in the following apparatus are galvanized, except flange unions and bolts and parts of the giant stride. Any iron not galvanized is painted with a coat of radiator bronze to prevent rust. All bolts should be bradded to prevent loss of taps and consequent injury to apparatus. All apparatus should be inspected daily and weak places repaired when necessary. This may prevent accidents.

In all the concrete work the proportions are 3 sacks of cement to a cubic yard of gravel. Mix gravel and cement thoroughly

before wetting and after pouring into holes allow 24 hours to harden.

It is well to have sand 3 or 4 inches deep under all the apparatus.

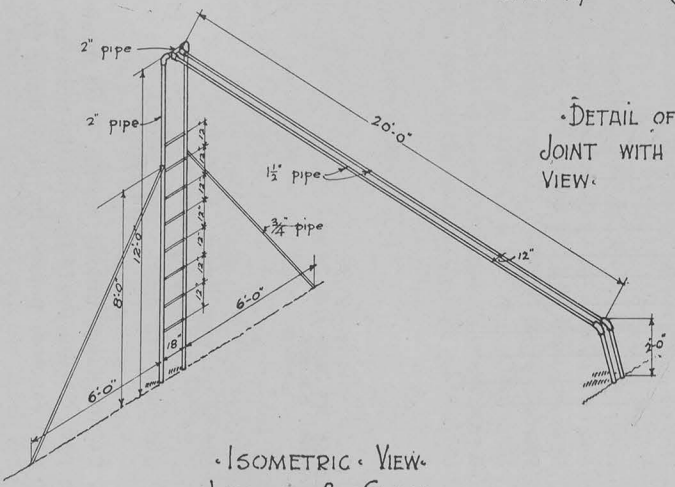
THE SLIDE.

The slide (Fig. 1) consists of a 12 ft. vertical ladder, from the top of which two 20 ft. pipes, 12 in. apart, extend towards the ground at an angle of about 50°. The lower ends of these pipes are fastened by half-ells to two 4 ft. pipes which are set in 2 ft. of concrete. The ladder is also set in 2 ft. of concrete, leaving 12 ft. clear above ground.

The slide is of 1½ in. pipe, sides of ladder of 2 in. pipe, pipe across top of ladder 2 ins. by 18 ins. and connected to ladder by 2 in. ells. This pipe has two ½-in. holes drilled through it 14 in. apart through which the bolts pass which are to hold the slide, as shown in figure 2. Two 1½-in. caps are prepared for the taps of the pipes for the slide by drilling a ½-in. hole in the center of each, filling the hole square, into which a carriage bolt ½-in. by 3-in. fits. (See fig. 2.) The caps are ready to bolt to the cross pipe. The pipes for the slide are screwed into the caps after the ladder has been set up in the holes and then the 4-ft. pipes for the bottom of the slide are dropped into place in holes 2 ft. deep and are then screwed into the 45 degree ells at the bottom of the slide.

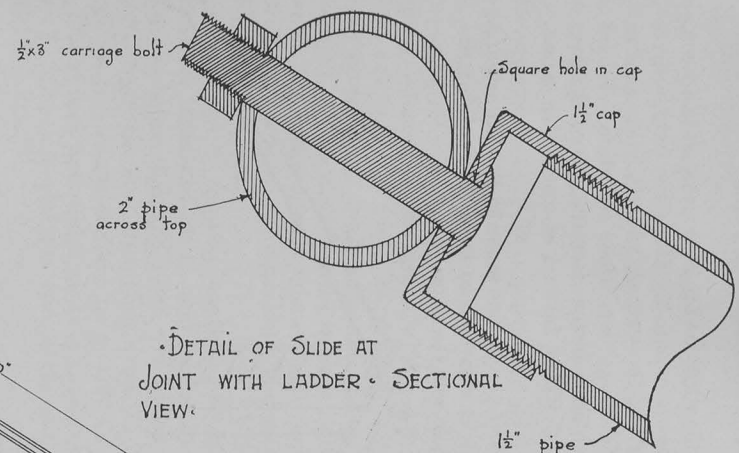
The ladder is 14 ft. long, 12 ft. above ground and 2 ft. in concrete. There are 7 rounds, 1 ft. apart, beginning 2 ft. above ground. Rounds are of ¾-in. pipe, 20 in. long, tapered at the ends to fit into 1-in. holes. The sides of the ladder are drilled with 1-in. holes to let in the rounds, and into the holes for the top, the middle and the bottom rounds a ½-in. drill is inserted and holes made for machine bolts, ½-in. by 22-in., which pass through the rounds and the sides of the ladder and hold it together. If these bolts are not easily obtained they may be made of ½-in. iron rods, threading both ends for taps.

If this piece of apparatus is not attached to others it will need braces on each side of the ladder. These are made of ¾-in. pipe, flattened at the top for 6 inches, bolted to the sides of the ladder 8 ft. 6 in. above the ground, and set in concrete 6 ft. from the bottom of the ladder.



Isometric View Ladder & Slide.

Fig. 1.



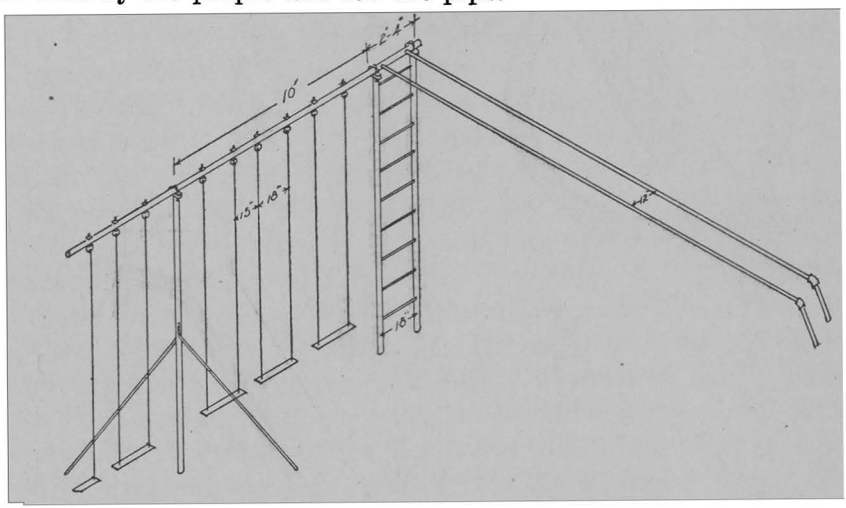
Detail of Slide at Joint with Ladder. Sectional View.

Note: First bolt cap to pipe, then screw in pipe for slide.

Fig. 2.

However, it is more economical to construct the slide in connection with swings as shown in fig. 3. Here the ladder takes the place of a post supporting the swings, and the slide acts as a brace for the swings, and the swings brace the slide. Where connected to swings the ladder is fastened at the top to the 2½-in. pipe used for support of swings, instead of to the 2-in. cross-pipes.

The holes for the rounds of the ladder must be drilled *exactly* in line. For this reason it is advisable to have this part of the work done by the people who sell the pipe.



ISOMETRIC SECTION OF SLIDE AND SWINGS
4 SECTIONS . 12 SWINGS . 2 SLIDES.

Fig. 3.

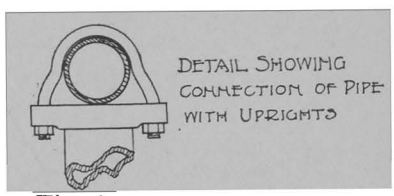


Fig. 4.

THE SWINGS

A 2½-in. flange union (see fig. 4) is screwed to the end of each post, 2½-in. by 14-ft., and the posts are set in holes 2 ft. deep and concrete poured in, pipes being plumb and the tops

being exactly in horizontal line. Braces of ¾-in. pipe, flattened at the top, are bolted to the posts 8 ft. above ground and set in 2 ft. of concrete, about 6 ft. from the bottom of the post. (See fig. 3.) The posts are placed in line at intervals of 10 ft. After the concrete has had 24 hours to harden, the pipe for supporting the swing is placed on top of the posts and bolted to flange union as in fig. 4. This pipe is 2½ in. by 20 ft. 6 in., with ½-in. holes drilled through it in line at intervals, as follows: 15 in., 18 in., 15 in., 18 in., 15 in., 18 in., 36 in., 18 in., 15 in., 18 in., Eye-bolts, ½-in. by 4-in., are put through the holes and bolted. Chains for swings are fastened to these by lap links. Seats are made of pine boards, 1-in. by 4-in. by 18-in., holes being bored 2 in. from ends for chains. Porch swing chains are used. Well chains or open link chains will not stand the strain; the links spread and chains come apart or break. If porch chains are not obtainable, a heavier chain with welded links may be used.

Pipes come in random lengths of 19 ft. to 22 ft. Specify a minimum length of 20 ft. and maximum length of 21 ft., and if it comes less than the 20 ft. 6 in. make the first hole less than 15 in. from the end, deducting from 15 one-half the difference between the length of the pipe and 20 ft. 6 in.

The swings and slides make a good combination as shown in fig. 2. The material for two slides and 12 swings costs from $40.00 to $50.00.

GIANT STRIDE

The Dutch swing or giant stride consists essentially of a strong post securely planted in the earth and fitted at the top with a revolving device to which ropes may be attached.

The post A, fig. 5, is of 4-in. pipe 15 ft. long, imbedded in 3 ft. of concrete. The hole for the concrete is jugged out at the bottom to a diameter of 3 ft. with only a small opening at the top.

After pouring concrete in around post, plumb the post with a spirit level and allow it 24 hours to harden.

The device set in the top of the post is made from a part of the spindle (C, fig. 5) and hub T of a castaway buggy. Blacksmiths usually charge 25 cents for the old hub and the spindle cut off about 18 inches from the shoulder. Have the smith cut

out an iron disc (B, fig. 5) ¼ in. thick, 5 in. in diameter, with a hole in the center into which the spindle drops to the shoulder. With a cold chisel notch out 4 shoulders on the lower side of the disc to hold it in center of pipe. From the tinner get another disc, J, for the lower end of the spindle. Have this made of heavy sheet metal. Cut it 3⅞ in. in diameter with a square hole in center to fit the spindle, and after putting it on

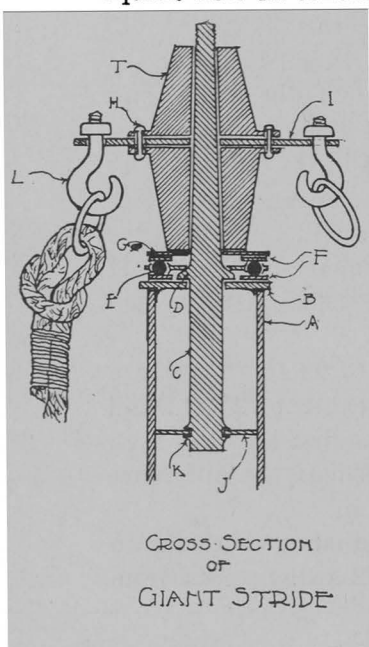


Fig. 5.

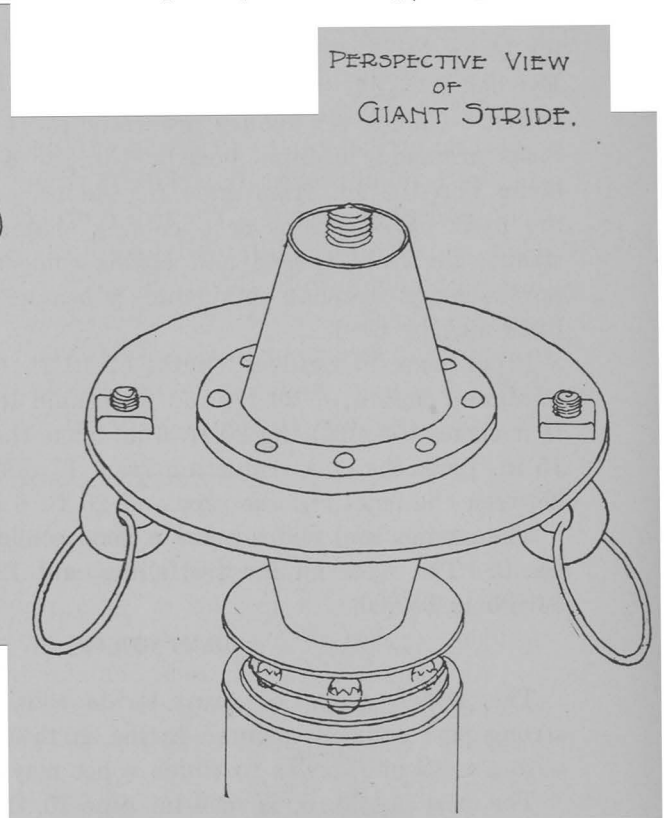


Fig. 6.

notch out the spindle with a cold chisel (see K, and fig. 5) to hold the disc in place, or have the tinner solder it on. This holds spindle in center of pipe. Place this in the top of post. A ball-bearing washer, F, is then dropped down over spindle, then balls, then another washer F, and then another disc, G. This disc G is not necessary if the hub fits over the ball bearings properly.

The hub, T, is prepared by removing the old spokes and

putting a disc I in their place, drawing together the sides of the hub plates with bolts, H. This disc I is ¼ in. thick, 10 in. in diamater, with a hole in the center sufficiently large to allow the disc to fit over the hub. The bolts, H, hold the disc and the hub together.

Four hooks, L, made by the blacksmith out of half-inch rods, are bolted to disc and ropes are attached by means of 2-in. rings. After tying the rope to the ring wrap tightly with wire as shown in cut. The ropes should extend to within 3 ft. of the ground and should be of ½-in. or ¾-in. rope. They may be removed when the apparatus is not to be used.

Several of these giant strides have been put up in Fort Worth at a cost of approximately $10.00, including post, blacksmith work, and all materials. The ball bearings may be ordered from Flint and Walling Windmill Co., Fort Worth, Texas, if local dealers cannot supply them. Specify 2 washers and a race of 4 balls, center hole in ball race and washers being 1½ in. to 2 in. in diameter, according to the size of your buggy spindle.

Where a giant stride is found it is by far the most popular piece of apparatus on the playground.

HORIZONTAL LADDER

The materials for the horizontal ladder shown in figure 7 cost $10.00. The ladder is 7 ft. high and 14 ft. long. The sides are of 2 in. pipe, the rounds of ¾ in. pipe. The rounds are 16 in. long, tapered at the ends on an emory wheel so as to fit tight in 1-in. holes. Half-inch rods running through the rounds at each end of the ladder and in the center hold the parts together. Also, one round is bolted 2 ft. from the ground at each end.

HORIZONTAL BARS

The horizontal bars are among the most important of playground appliances for the large boys. The cost need not be more than $4.00 at the outside for one bar, and is about half that for each succeeding bar in a set.

Construction.—For uprights, use 2-in. pipes, and for bars use 1¼-in. pipe. Place uprights 5 ft. apart, and bars 7 ft. from the ground. Insert uprights in holes 2 ft. deep, fix them *plumb* and fix the bars *level*. Pour concrete in the holes and allow 24 hours in which to harden.

VAULTING BAR

The uprights, A, of the adjustable bar, F, shown in fig. 8 are of 2-in. galvanized iron, 16 ft. long, imbedded 2 ft. deep in concrete, and connected at the top by a 2-in. pipe. Half-inch holes are drilled 2 in. apart, beginning 30 in. from the ground, and continuing to 7 ft. The bar, F, is of 1¼-in. pipe, with a

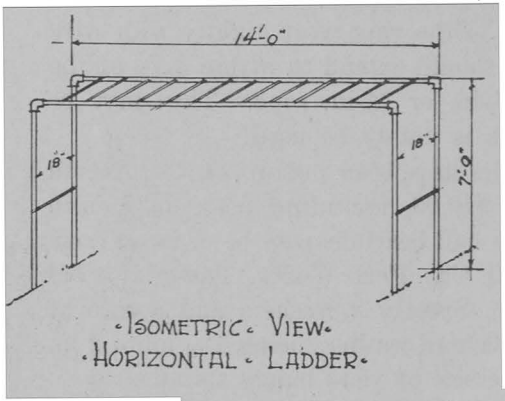


Fig. 7.

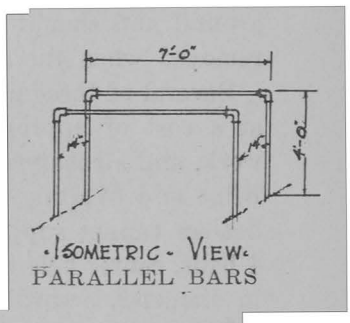


Fig. 8.

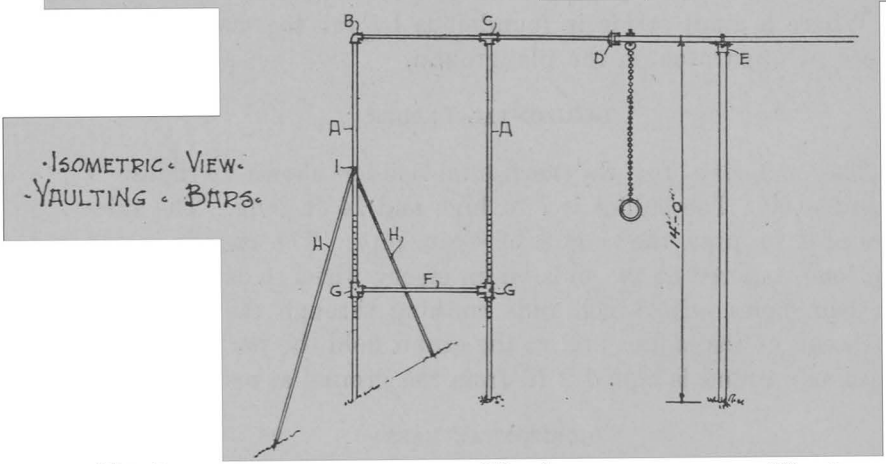


Fig. 9.

2½-in. tee, G, at each end. A half-inch hole is drilled through each tee for the bolt, which passes through the tee and the upright, holding the bar at any desired position. The braces, H, are of ¾-in. pipe, flattened at the top, I, bolted to the upright 10 ft. from the ground, and the bottom imbedded in 2 ft. of concrete. There are no braces on the right upright shown in the picture, it being connected at the top to the large athletic frame (fig. 10) at D by means of a 2-in. by 2½-in. bushing.

PARALLEL BARS

The uprights for the parallel bars are of 2-in. pipe and the bars of 1½-in. pipe. The uprights are set in concrete 2 ft. deep and extend 4 ft. above ground. They are connected to the bars by means of ells. The bars are 7 ft. long and the distance between them is 14 inches.

TRAVELING RINGS

The support for the traveling rings (see fig. 10) is a 2½-in. pipe 25 ft. long, 14 ft. above ground, and horizontal, ⅝-in. holes are drilled through this pipe at intervals of 6 ft. A ⅝-in. iron bar, shaped into an eye-bolt, is driven through the hole and bolted at the top. (See fig. 10.) From this hook is suspended a ring 2 in. in diameter, to which a chain 6 ft. long is attached by means of a lap link. Another lap link at the bottom of the chain attaches it to a 4-in. link, through which the large ring passes. This large ring is made of iron rod 1 in. in diameter. The inside diameter of the ring is 8 in. The hooks and rings are made by a local blacksmith. The chain is found at the hardware store. It is galvanized. If the ring is in constant use or is taken indoors at night, paint is unnecessary.

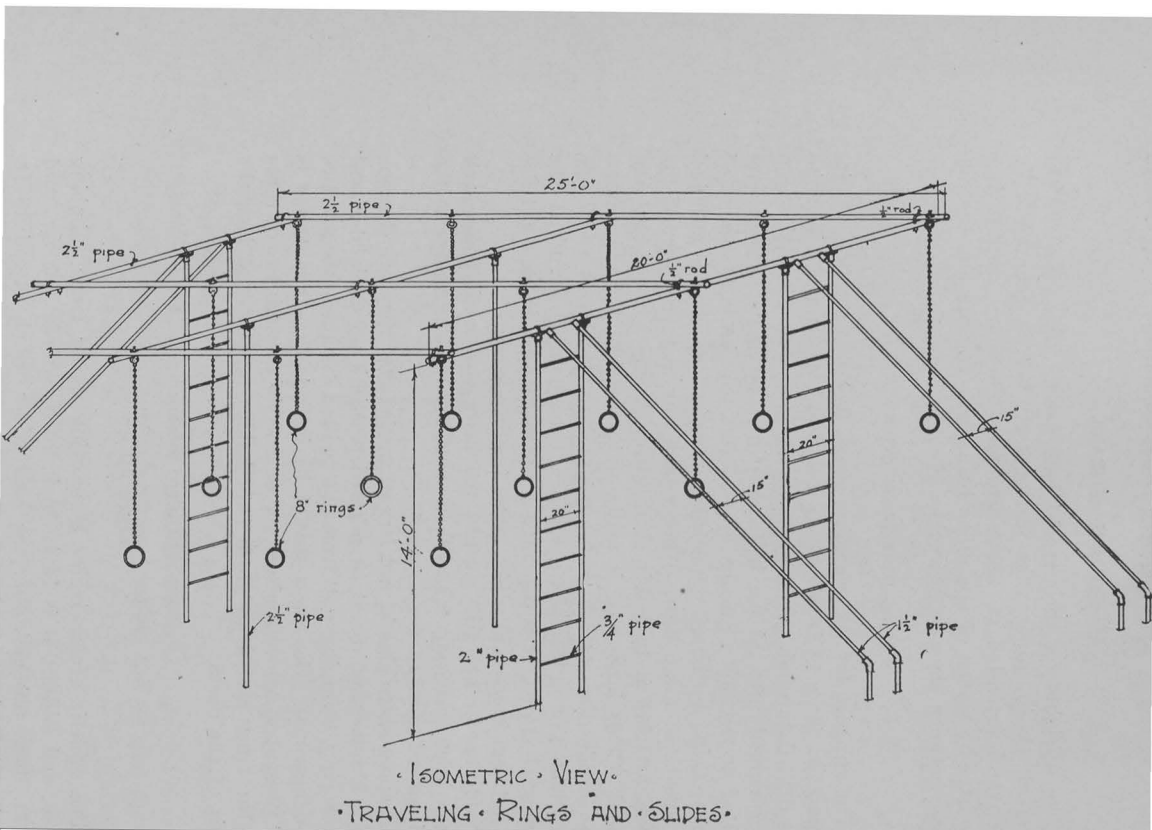
Radiator bronze will protect the bolts and small connecting rings from rust and make them conform in appearance to the galvanized pipe of the frame.

Trapeze rings should not be put up because they are dangerous. Pupils should not be allowed to climb up on ladder and catch ring, swinging out from the ladder, because this practice is dangerous. The rings should be locked when supervisor is not present to prevent misuse. Pass a chain through two or three of the rings and draw them to a ladder or post and lock the ends of the chain.

THE ATHLETIC FRAME

(Figure 10.)

The athletic frame is for supporting flying rings, climbing ropes, and slides. It is 14 ft. high, 20 ft. wide at the top, and 25 ft. long, not including the four slides which extend 16 ft. further at each end.



ISOMETRIC VIEW
TRAVELING RINGS AND SLIDES

Fig. 10.

The ladders for slides are made as directed for fig. 3, except they extend 14 ft. above the ground. Two ladders for one end are set up with the outside posts 12 ft. apart. At a distance of 24 ft. the ladders for the other end are set up. In line with the outside posts of the two ladders of opposite ends a 2½-in. post is set up, being 12 ft. from each ladder. Similarly another post is set up in line with the ladders of the other side. These posts are 12 ft. apart, outside measurement. To the tops of the ladders and posts are screwed flange unions, as shown in fig. 4. All of these must be exactly in a horizontal plane, the spirit level applied to a straight edge placed on top of the flange unions.

After this part of the frame has been set up and concrete poured in, it should not be shaken or handled in any way for 24 hours, giving concrete time to harden. Cross pipes 20 ft. long are then bolted on top to the flange unions (fig. 4). In the center and at each end of these cross pipes 2 half-inch holes are bored, 4 inches apart on centers. The 25 ft. pipes (supports for traveling rings described above) are then bolted to these cross pipes by means of U-shaped bolts, made of ½-in. rods, which pass through the holes in the cross pipes.

These cross pipes are also drilled with ½-in. holes for attaching the slides, as described above and shown in fig. 2. These holes are at an angle of 45° to the holes for the U-shaped bolts. The first hole for slide is 4 ft. 6 in. from the end of pipe and the second is 15 in. on centers from the first.

A climbing rope may be substituted for a ring at any corner of the frame. The rope should be 1 in. in diameter or larger and should be attached by means of a hook instead of an eye-bolt, so that it may be kept out of the weather when not in use.

MATERIALS NEEDED

The materials needed for the apparatus shown in the photographs are as follows:

Horizontal Bars, Bill of Material

For the first bar 7 ft. high:

2 pipes, 2 in. x 9 ft.; 1 pipe, 1¼ in. x 5 ft.; 2 tees, 2 in. x 1¼ in.

For each additional bar 7 ft. high:

1 pipe, 2 in. x 9 ft.; 1 pipe, 1¼ in. x 5 ft.; 1 tee, 2 in. x 1¼ in.

1 yd. gravel and 3 sacks cement for 12 post holes.

Machine Shop Work

For first bar:
2 cuts and 2 threads 2 in. pipe.
1 cut and 2 threads 1¼ in. pipe.
For each additional bar:
1 cut and 1 thread 2 in. pipe.
2 cuts and 2 threads 1¼ pipe.

The Slide, Bill of Material

Ladder: 2 pipes, 2 in. x 16 ft. or 14 ft. if for small children.
7 pipes, ¾ in. x 20 in.
3 bolts, ½ in. x (machine bolts) 24 in.
Slide: 2 bolts, ½ in. x 5 in.
2 caps for 1½ in pipe.
2 half ells (45 degree ells) 1½ in.
2 pipes, 1½ in. x 20 ft.
2 pipes, 1½ in. x 4 ft.

Machine Shop Work

2 cuts and 2 threads, 2 in. pipe.
7 cuts and 1 thread, ¾ in. pipe, and tapering same to 1 in. outside diam.
4 cuts and 4 threads, 1½ in. pipe.
14 holes, 1 in. diam ; 2 holes ½ in. diam.

Horizontal Ladder, Bill of Material

2 pipes, 2 in. x 14 in.
4 pipes, 2 in. x 9 ft.
15 pipes, ¾ in. x 20 in.
4 ells, 2 in. — 2 in.
5 bolts, ½ in. x 24 in.
½ sack cement; 1/5 yard gravel.

Machine Shop Work

6 cuts, 8 threads, 2 in. pipe.
30 1-in. holes, 10 ½-in. holes.
15 cuts, ¾ in. pipe.
30 ends ¾-in. pipe tapered to 1 inch outside diam. (¾ in. is inside diam.)

Giant Stride, Bill of Material

1 pipe, 4 in. x 15 ft. with coupling attached.
1 buggy spindle with 2 ft. of axle, and hub to match.
1 plate (sheet iron) ¼ in. thick, 10 in. in diam., with hole in center to fit hub and 4 ½-in. holes for hooks.
4 hooks of ½-in. iron with shanks 2 in. long (threaded for taps) with taps.
4 rings 2 in. in diam.
4 ropes, ¾ in. in diam., 14 ft. long.
⅓ yd. gravel and ⅜ sack cement.
1 set ball bearings.

Traveling Rings, Bill of Material

A support of 2½ in. pipe, 25 ft. long, 14 ft. high (see Fig. 10).
15 eyebolts ⅝ in. iron with shanks 5 in. long (threaded for taps) with taps.
15 rings 2 in. in diam.
30 lap links, 1½ in.
15 chains 6 ft. long.
15 rings of 1-in. iron, 8 in. in diam., with 4-in. link of 3/16-in. iron in each.

Vaulting Bar, Bill of Material.

2 pipes, 2 in. x. 14 ft.
1 pipe, 2 in. x 5 ft.
1 pipe, 1½ x 5 ft.
4 pipes, ¾ in. x 12 ft.
2 ells, 2 in.
2 tees, 2½ in. x 1½ in.
4 bolts, ⅜ in. x 3 in.; 2 bolts, 6 in. x ⅜ in.
½ sack cement; ¼ yard gravel.

Machine Shop Work

3 cuts. 4 threads, 2 in. pipe.
8 cuts, 2 threads, 1½ in pipe.
4 cuts, 4 threads, ¾ in. pipe.
52 ½-in. holes.
4 ⅜-in. holes.

Athletic Frame, Bill of Material

4 slides (see bill of material above).
3 pipes, 2½ in. x 20 ft.
3 pipes, 2½ in. x 25 ft.
3 pairs flanges, 2½ in.
10 ½-in. rods, 23 in. long, with taps (rods threaded for taps).
9 ½-in rods, 30 in. long, with taps (rods threaded for taps).
Unless slides are attached braces will be needed.
For braces, 4 pipes, 2 in. x 16 ft. flattened at one end, for bolts.
8 bolts, ½ in. x 5 in.

Machine Shop Work

3 cuts and 1 thread, 2½ in. pipe.
26 ½-in. holes in 2½ in. pipe.
15 ⅝-in. holes in 2½ in. pipe.
38 ½-in. bolt threads.
15 ⅝-in. bolt threads on eye bolts.

APPARATUS MADE OF WOOD

By C. A. Jameson,
Fannin School, Houston.

TEETER LADDERS

The teeter ladder is very substantially made of white oak and is 12 ft. long. It is suspended at its middle point by two hangers. The hangers are made of iron. A broad strap with an eye is bolted securely to the center of the ladder. A rod 5/8 in. in diameter is fitted with hooks and reaches from the ladder to the beam where it articulates with a hook made of 5/8 in. iron. The ladder if properly hung balances almost perfectly on the two hangers. Pupils grasp the rungs and jump up and down. This device is somewhat dangerous, but it gives splendid exercise and is very fascinating to the players.

SWINGS AND SEE-SAWS

Erect a frame work 24 ft. long and 8 ft. high. Set 3 posts 4 ft. in the earth, and let them extend 8 ft. above. At the top fasten securely a beam 4 in. by 6 in. by 24 ft. For uprights use beams 4 in. by 6 in. by 12 ft. Set in line 12 ft. apart. This frame work will carry 8 swings, allowing 3 ft. for each.

Use 5/8 in. hangers and set them 18 in. apart. For seats use 1 in. by 6 in. by 22 in. oak or yellow pine reinforced. Round off the corners and edge of the seat board and bore two holes in each end. These holes should be two in. from the end and 2 in. apart and should be 2 in. in diameter if a chain is used. If rope is used, bore two holes only and put them in the exact center of the board and 2 in. from the ends.

If the exact length of overhead beam is 12 ft. inside the uprights, commencing at the upright on either end bore the first hole 12 in. from the upright and the others as follows: 18 in., 15 in., 18 in., 15 in., 18 in., 15 in., 18 in. (i. e., the second should be 18 in. from the first, the third 15 in. from the second, and so on). The second section will be a duplicate of the first.

For hangers, procure 5/8 in. bolts 10 in. long, cut off the heads and turn a hook, using about 3 in. to 4 in. for the hook. They

will cost less than 8 cents each. If rope is used, metal eyes should be used to take the wear, or the rope will not last long.

SEE-SAW

The old fashioned sew-saw is quite a favorite with the children and can be constructed very cheaply. Set three 6 in. by 4 in. by 7 ft. pieces 4 ft. in the earth. Surmount by a 4 in. by 6 in. beam and fasten to posts with iron clamps or log screws. This frame will carry from four to six boards. For boards procure 2 in. by 12 in. by 16 ft. heart pine. Suspend to frame by two hangers made by cutting the heads off bolts of suitable length—10 in. for the upper and 8 in. for the lower. Turn the hooks on the ends. Use $\frac{5}{8}$-in. bolts. It will be well to reinforce the boards with a piece 2 in. by 12 in. by 8 ft., as the center may be subjected to a very heavy strain.

MERRY-GO-ROUND

A splendid "merry-go-round" or "flying jenny" was made by the pupils of the Fannin School in Houston, according to the directions given by Principal Jameson as follows:

Set a good strong post in the ground about 4 to 6 ft. Fit the upper end with an iron plate and bore a hole through the plate and at least 10 in. in the post. The hole should be at least 1 in. in diameter. The top of the post should be at least 6 ft. from the ground. The overhead beam should be 4 in. by 6 in. by 12 to 14 ft. Bore a hole $1\frac{1}{4}$ in. in diameter through the center and fit an iron plate on beam to take up the wear. By means of ropes or hangers attach bars or seats to ends of this beam. Two or four children ride at a time while others push. This plan can be greatly improved if you have the means and so desire. It can easily be arranged to carry four to six beams and two to four passengers to each beam. To do that, fit the top with a revolving device and fit the post with a plate and a pair of collars. Let the ends of the beams abut upon the post 6 to 8 ft. from the ground. With an iron band or braces, stay the beams in place and support the outer ends with rods attached to the revolving device. Attach bars to the beams. The players hold the bars and run until they acquire considerable momentum when they swing free of the ground for a time. This is good exercise and glorious sport.

APPENDIX

MODEL ENTRY BLANK FOR COUNTY TRACK MEET

Official Entry Blank

For the Annual Track and Field Meet of the.....
County Interscholastic League, to be held at.....,
Texas, on....., 191....., beginning at 2:00 o'clock p. m.

Notice to Schools and Contestants

1. The Meet will be under the rules of the University Interscholastic League, copy of which will be mailed, on request, by the University of Texas, Austin.

2. The Meet will be in five divisions: Girls Junior, Girls Senior, Boys Junior, and Class B High School, Class A High School. Only girls under 14 and boys under 15 are eligible to their respective Junior divisions. Class B. schools are those not in cities of 600 scholastic population.

3. Enter not over three for any one event, excepting the relay, which requires four. Enter the same contestants in not over four running events and not over five all together.

4. An entry fee of.....cents is charged for each event in which each contestant is entered.

5. Send your entries on this blank, with the fees, to.....
....., Texas, not later than..... No entries will be allowed after that date. The list must be signed by the principal or other acting head of the school.

To the Director of the Meet:

Please enter the following contestants for the events checked opposite their names. I certify that all contestants whose names appear hereon are eligible under the rules of the University Interscholastic League.

Dated, ..., 191.....

Signed, ...

Principal.

School.....

NOTE: A, B, J, S, stands for Class A, Class B, Junior, and Senior, respectively. Letters after an event indicate what divisions it is held in. Indicate events with an X, and write after the X the letter to indicate the division the contestant is in.

(Write in alphabetical order) BOYS	120-yd. hurdle, A, B.	100-yd. dash, A, B, J.	50-yd. dash, B, J.	220-yd. hurdle, A, B.	220-yd. dash, A, B, J.	880-yd. run, A, B.	Potato race, J.	440-yd. dash, A.	Mile run, A, B.	Mile relay, A, B.	440-yd. relay, J.	Running high Jump, A, B, J.	Running broad Jump, A, B, J.	Pole vault, A, B, J.	12-lb. shot put, A, B.	8-lb. shot put, J.	12-lb. hammer throw, A.	Discus throw, A, B.	Baseball throw, J.	Chinning, J.
GIRLS	30-yd. dash, J, S.	140-yd. relay, J, S.	Potato race, J.	Basketball throw, J, S.	Baseball throw, J, S.															

AGREEMENT FOR ATHLETIC GAMES BETWEEN TWO SCHOOLS

(Form of contract used by the University Interscholastic League.)

....., Texas, ..., 19.....

We, the undersigned, to wit: ....., Faculty representative of the.....School, to be designated in this contract as Party of the First Part, and....., Faculty representative of the.....School, to be designated in this contract as Party of the Second Part, do mutually agree to cause the.....teams of our respective schools to meet at....., Texas, on....., 191....., and then and there to engage in a game of....., under the conditions specified below:

1. The game to be played under the eligibility rules of the University Interscholastic League, and under such other rules of said League as are given for the playing of said game.

2. A list of players to be used by each team, with eligibility certified to by the respective principals, to be exchanged in advance of said game.

3. Party of the First Part to provide a ground, suitably equipped, for the playing of said game.

4. [Mark out either (a) or (b).] (a) Party of the First Part to provide suitable lodging and meals, free of charge, for .....members of the team of Party of the Second Part, for such time as it may be necessary for said team to be in .....on account of said game, and also to pay to Party of the Second Part a sum sufficient to cover railroad and other transportation fare of.....men from .....to.....and return.

(b) Party of the First Part to pay to Party of the Second Part the sum of.....dollars ($.....), on condition that Party of the First Part shall not be liable for the expenses of the team of Party of the Second Part as specified in No. (a) above.

5. Immediately after the completion of said game, a business settlement as per the terms of this contract, to be made at the gate office, or other place designated by Party of the First Part.

6. Should either team fail to appear at the time and place specified above for said game, for other reason than unavoidable delay, or refuse, for any reason, to continue said game until its completion after it has been begun, the Party to this contract representing said team so offending shall pay to the Party of the other part the sum of.....dollars ($.....).

7. Party of the First Part shall make suitable provision for controlling the spectators at said game and shall use every effort to prevent any interference with the game or with the team of Party of the Second Part during said game.

Signed:

For Party of the First Part,.....

Representing.....School.

For Party of the Second Part, ...

Representing.....School.

SUPPLY HOUSES FOR PLAYGROUND APPARATUS

A. G. Spalding Co., Chicopee, Mass.

Howard George Playground Supply House, Philadelphia, Pa.

Narragansett Machine Co., Providence, R. I.

Wilcox Silver Plate Co., Meriden, Conn.

Everwear Mfg. Co., Sycamore St., Springfield, Ohio.

American Playground Device and Swing Co., Terre Haute, Indiana.

International Gymnasium Supply Co., Springfield, Mass.

Health Merry-Go-Round Co., Quincy, Ill.

DEALERS AND MAKERS OF ATHLETIC MEDALS AND BADGES

The Whitehead & Hoag Co., Praetorian Buliding, Dallas.

T. Hauseman & Sons, New Orleans, La.

C. A. Bryant & Co., Dallas.

Jos. K. Davison's Sons, 715 Sanson St., Philadelphia, Pa.

William C. Dorrety Mfg. Jeweler, 387 Washington St., Boston, Mass.

DEALERS IN ATHLETIC GOODS:

Caswell & Smith, Austin.

A. G. Spalding Bros., Dallas.

BIBLIOGRAPHY

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The following numbers in the Spalding Athletic Library, published by the American Sports Publishing Company, New York, will be found very helpful. They may be had for 10 cents each except where a different price is given:

No. 12A. Official Athletic Rules.
No. 87. An Athletic Primer.
No. 252. How to Sprint.
No. 255. How to Run 100 yards.
No. 174. Distance and Cross-Country Running.
No. 259. How to Become a Weight Thrower.
No. 246. Athletic Training for School Boys.
No. 231. Schoolyard Athletics.
No. 314. Girls' Athletics.
No. 156. Athletes' Guide.
No. 302. Y. M. C. A. Athletic Handbook.
No. 1. Official Baseball Guide.
No. 2R. Strokes and Science of Lawn Tennis (25 cents).
No. 2. Official Football Guide.
No. 324. How to Play Football.
No. 2A. Official Soccer Football Guide.
No. 4. Official Lawn Tennis Annual.
No. 7A. Official Basketball Guide for Women.

Other good books on athletics are:

Stecher: Guide to Track and Field Work. McVey Publishing Co., Philadelphia (1229 Archer Street), 50 cents.

Clark: Practical Track and Field Athletics. Duffield & Co., $1.00.

Lee: Track Athletics in Detail. Harper Bros., New York, $1.25.

Withington: The Book of Athletics.

Lothrop: Lee & Shepard, Boston. $2.00.

Crowther: Rowing and Track Athletics. Macmillan Co., New York, $2.00.

Camp: The Book of Football, The Century Co., New York, $2.00.

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U. S. Government Printing Office: Athletic Handbook for the Philippine Public Schools, 25 cents.

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Barbour: Book of School and College Sports. D. Appleton & Co., New York, $1.50.

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Handbooks of the Public School Athletic Leagues of New York, Baltimore, Newark, Buffalo, and other cities. American Sports Publishing Co., New York, 10 cents each.

Every teacher who can should read the chapter on High School Athletics, pp. 429—462, in Johnston's The Modern High School. Scribner's, New York.

(2) *Miscellaneous Games*

Bancroft: Games for the School, Home, and Gymnasium. Macmillan Co., New York, $1.50. (A most excellent book.)

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Johnson: What to Do at Recess. Ginn & Co., New York, 25 cents.

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(3) *Play and Playgrounds*

The Playground, a monthly magazine. Published by the Playgrounds Association of America, No. 1 Madison Avenue, New York. $1.00 a year.

Mero: American Playgrounds. The Dale Association, Boston, $1.50. (Invaluable.)

Pamphlets published by the Playground Association of Ameica, 1 Madison Avenue, New York, 5 and 10 cents each.

The following manufacturers of playground apparatus will be glad to submit plans and prices for apparatus.

A. G. Spalding, Chicopee, Mass.

Leland & Leland: Playground Technique and Playcraft. F. A. Bassette & Co., Springfield, Mass. $2.50. This book and the one by Mero mentioned above are invaluable.

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Scudder: Recreation for Rural Communities. World Book Company.

(4) *Folk Dances and Games*

Crawford: Folk Dances and Games. A. S. Barnes & Co., New York. $1.50.

Lincoln: The Festival Book. A. S. Barnes & Co., New York. $1.50.

Hofer: Folk Dances and Games. The Dale Association, Boston. 75 cents.

Hofer: Children's Singing Games, Old and New. A. Flanagan & Co., Chicago. 50 cents.

Duryea: Dance Songs of the Nations. The Dale Association, Boston. $2.00.

Crampton: The Folk Dance Book. A. S. Barnes & Co., New York, $1.50.

(5) *Physical Education, Gymnastics, Etc.*

Sargent: Physical Education. Ginn & Co., $1.50.

American Physical Education Review, a monthly magazine. Published by the Physical Education Association of America, Springfield, Mass., $3.00 a year.

Gulick: Physical Education by Muscular Exercise. P. Blakiston & Sons, 1012 Walnut Street, Philadelphia, 75 cents.

No. 290. Spalding Athletic Library, Get Well, Keep Well, 10 cents.

No. 149. Spalding Athletic Library, Care of the Body, 10 cents.

No. 7R. Spalding Athletic Library, Physical Training Simplified.

No. 208. Spalding Athletic Library, Physical Education and Hygiene.

Tyler: Growth and Education. The Dale Association, Boston, $1.50.

U. S. Government Printing Office: Gymnastic Drill Book for the U. S. Army. 25 cents.

Article on Physical Education in the Cyclopedia of Education, Munro. Macmillan Co., Dallas.

tion to deliver public lectures in Texas towns, when asked to do so. About a hundred lectures in fifteen different lines of work are now available.

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